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Jung et al.

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(54) **AUTHORIZED TRANSMISSION OF NAVIGATION ASSISTANCE**

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H04L 29/08	(2006.01)
H04M 1/725	(2006.01)

(52) **U.S. Cl.**

CPC ***H04M 1/72572*** (2013.01); ***H04L 67/18*** (2013.01); ***H04W 4/02*** (2013.01); ***H04W 4/023*** (2013.01)

(58) **Field of Classification Search**

CPC H04W 4/02; H04W 4/023; H04W 4/025; H04L 67/18; H04L 67/22; H04L 67/24; H04M 2242/03; H04M 3/42348

USPC 455/401.1–401.2, 414.1–414.3, 455/456.1–457, 466

See application file for complete search history.

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Primary Examiner — George Eng
Assistant Examiner — Marcus Hammonds

(57) **ABSTRACT**

Embodiments provide an apparatus, a system, a device, and a method. A method includes automatically providing data indicative of a location of a first mobile wireless communications device from the first mobile wireless communications device to a second mobile wireless communications device in response to respective human-user imitated authorizations exchanged between the two mobile wireless communications devices.

32 Claims, 14 Drawing Sheets

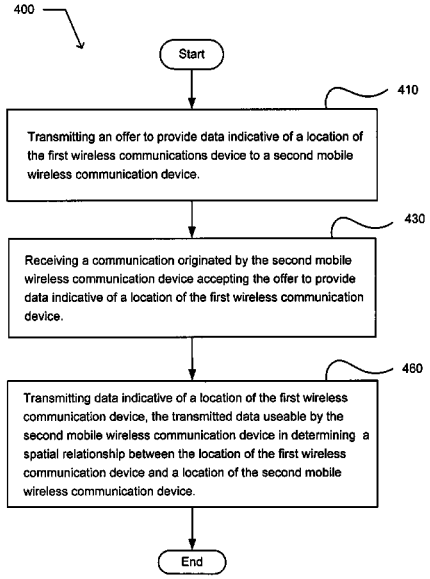

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FIG. 1

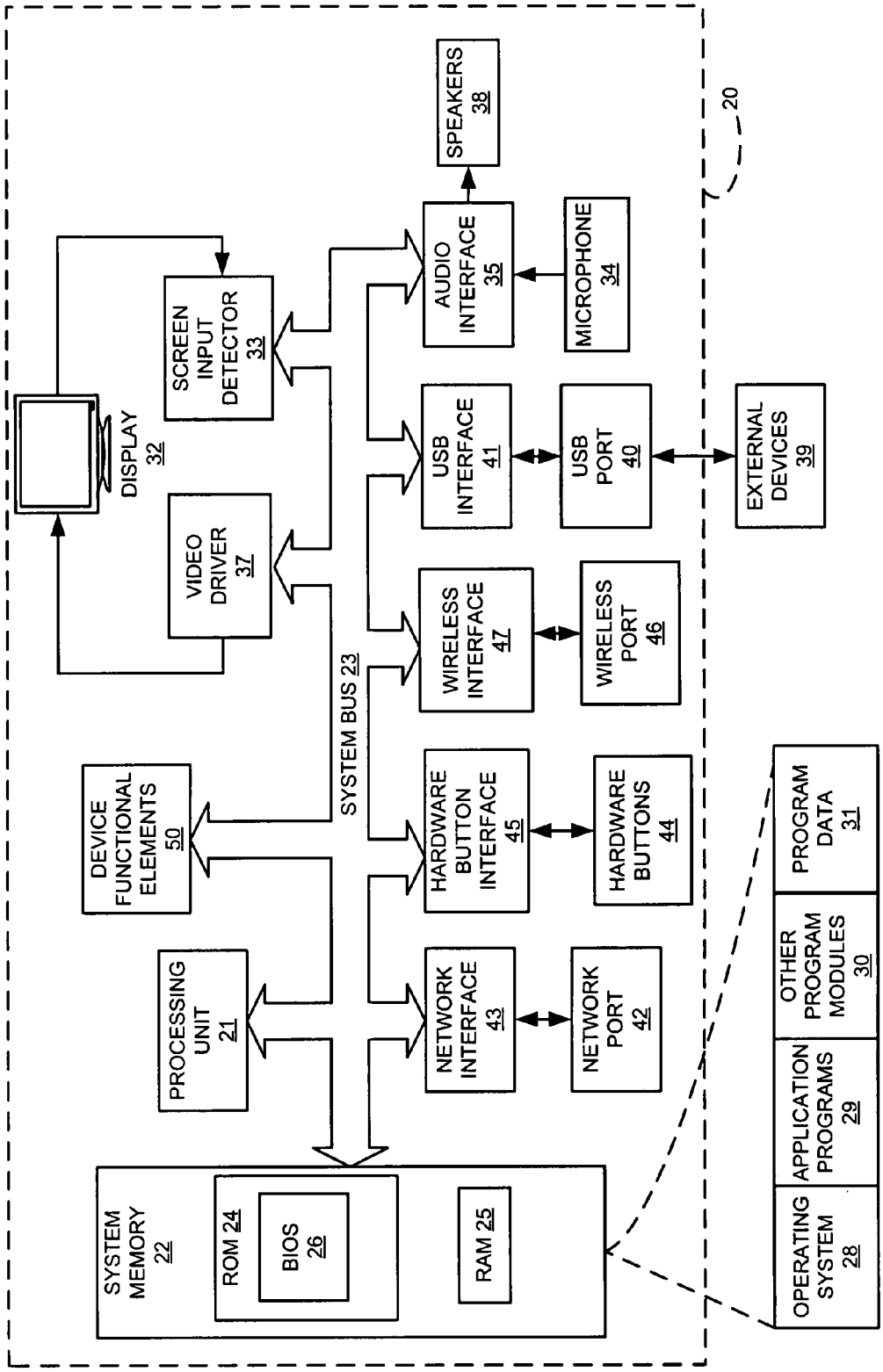

20
SPEAKERS 38
AUDIO INTERFACE 35
MICROPHONE 34
SCREEN INPUT DETECTOR 33
DISPLAY 32
VIDEO DRIVER 37
USB INTERFACE 41
USB PORT 40
EXTERNAL DEVICES 39
WIRELESS INTERFACE 47
WIRELESS PORT 46
SYSTEM BUS 23
DEVICE FUNCTIONAL ELEMENTS 50
HARDWARE BUTTON INTERFACE 45
HARDWARE BUTTONS 44
PROCESSING UNIT 21
NETWORK INTERFACE 43
NETWORK PORT 42
SYSTEM MEMORY 22
ROM 24
BIOS 26
RAM 25
OPERATING SYSTEM 28
APPLICATION PROGRAMS 29
OTHER PROGRAM MODULES 30
PROGRAM DATA 31

FIG. 2

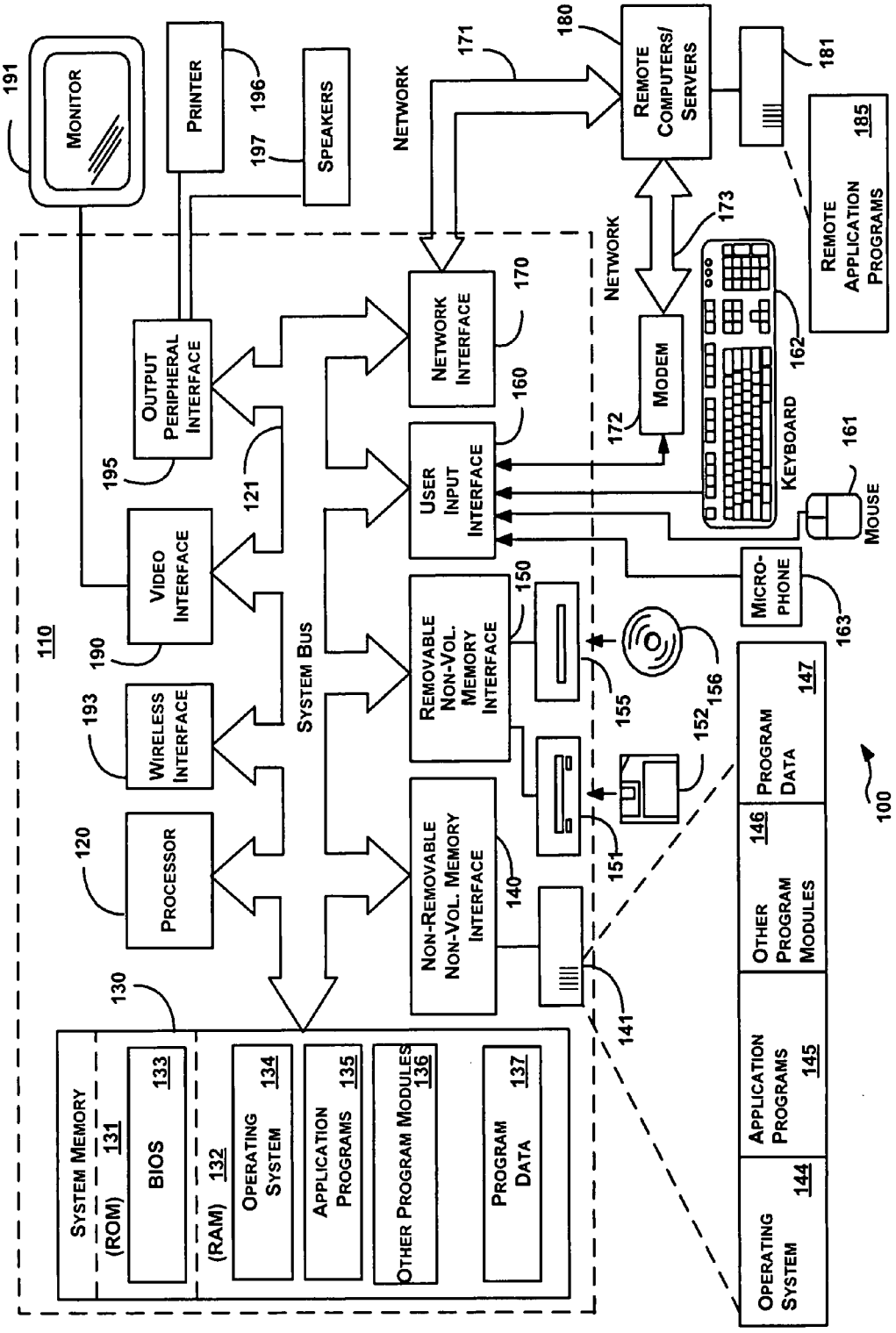

MONITOR
191
PRINTER
196
SPEAKERS
197
NETWORK
171
180
REMOTE COMPUTERS/ SERVERS
181
REMOTE APPLICATION PROGRAMS
185
NETWORK
173
MODEM
172
KEYBOARD
162
MOUSE
161
MICRO-PHONE
163
NETWORK INTERFACE
170
160
USER INPUT INTERFACE
OUTPUT PERIPHERAL INTERFACE
195
121
VIDEO INTERFACE
190
WIRELESS INTERFACE
193
SYSTEM BUS
110
PROCESSOR
120
REMOVABLE NON-VOL. MEMORY INTERFACE
150
NON-REMOVABLE NON-VOL. MEMORY INTERFACE
140
155
156
152
151
141
100
SYSTEM MEMORY
130
(ROM) 131
BIOS 133
(RAM) 132
OPERATING SYSTEM 134
APPLICATION PROGRAMS 135
OTHER PROGRAM MODULES 136
PROGRAM DATA 137
OPERATING SYSTEM 144
APPLICATION PROGRAMS 145
OTHER PROGRAM MODULES 146
PROGRAM DATA 147

FIG. 3

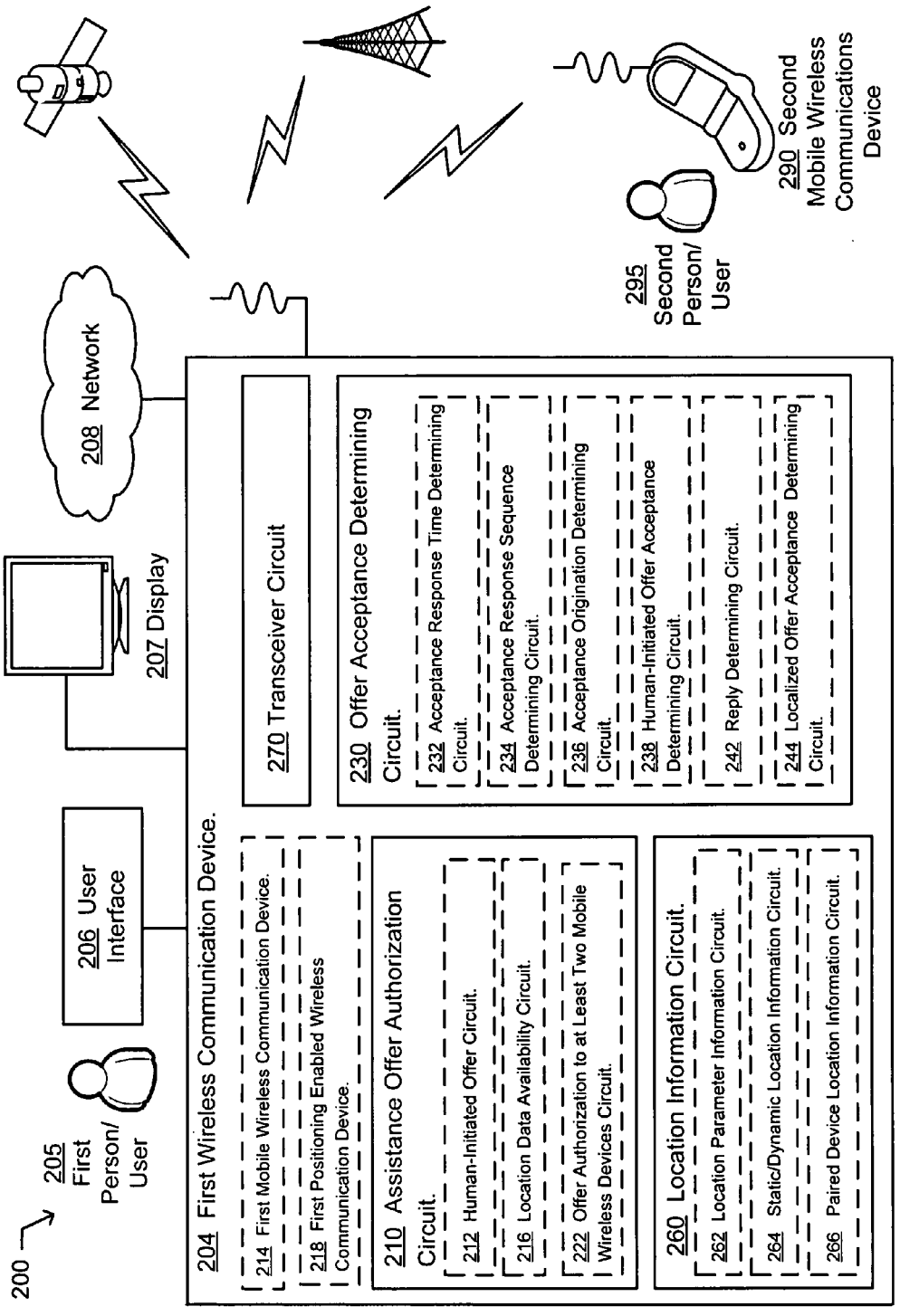

200
205 First Person/ User
206 User Interface
207 Display
208 Network
295 Second Person/ User
290 Second Mobile Wireless Communications Device
204 First Wireless Communication Device.
214 First Mobile Wireless Communication Device.
218 First Positioning Enabled Wireless Communication Device.
270 Transceiver Circuit
230 Offer Acceptance Determining Circuit.
232 Acceptance Response Time Determining Circuit.
234 Acceptance Response Sequence Determining Circuit.
236 Acceptance Origination Determining Circuit.
238 Human-Initiated Offer Acceptance Determining Circuit.
242 Reply Determining Circuit.
244 Localized Offer Acceptance Determining Circuit.
210 Assistance Offer Authorization Circuit.
212 Human-Initiated Offer Circuit.
216 Location Data Availability Circuit.
222 Offer Authorization to at Least Two Mobile Wireless Devices Circuit.
260 Location Information Circuit.
262 Location Parameter Information Circuit.
264 Static/Dynamic Location Information Circuit.
266 Paired Device Location Information Circuit.

FIG. 4

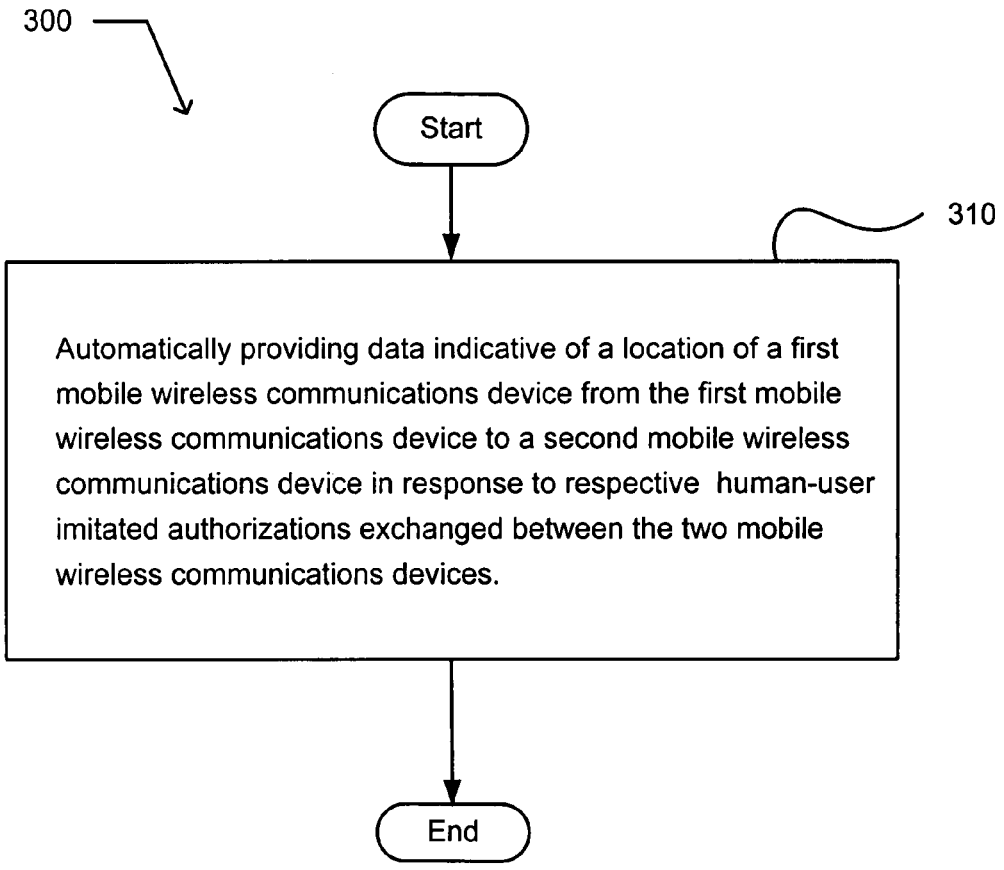
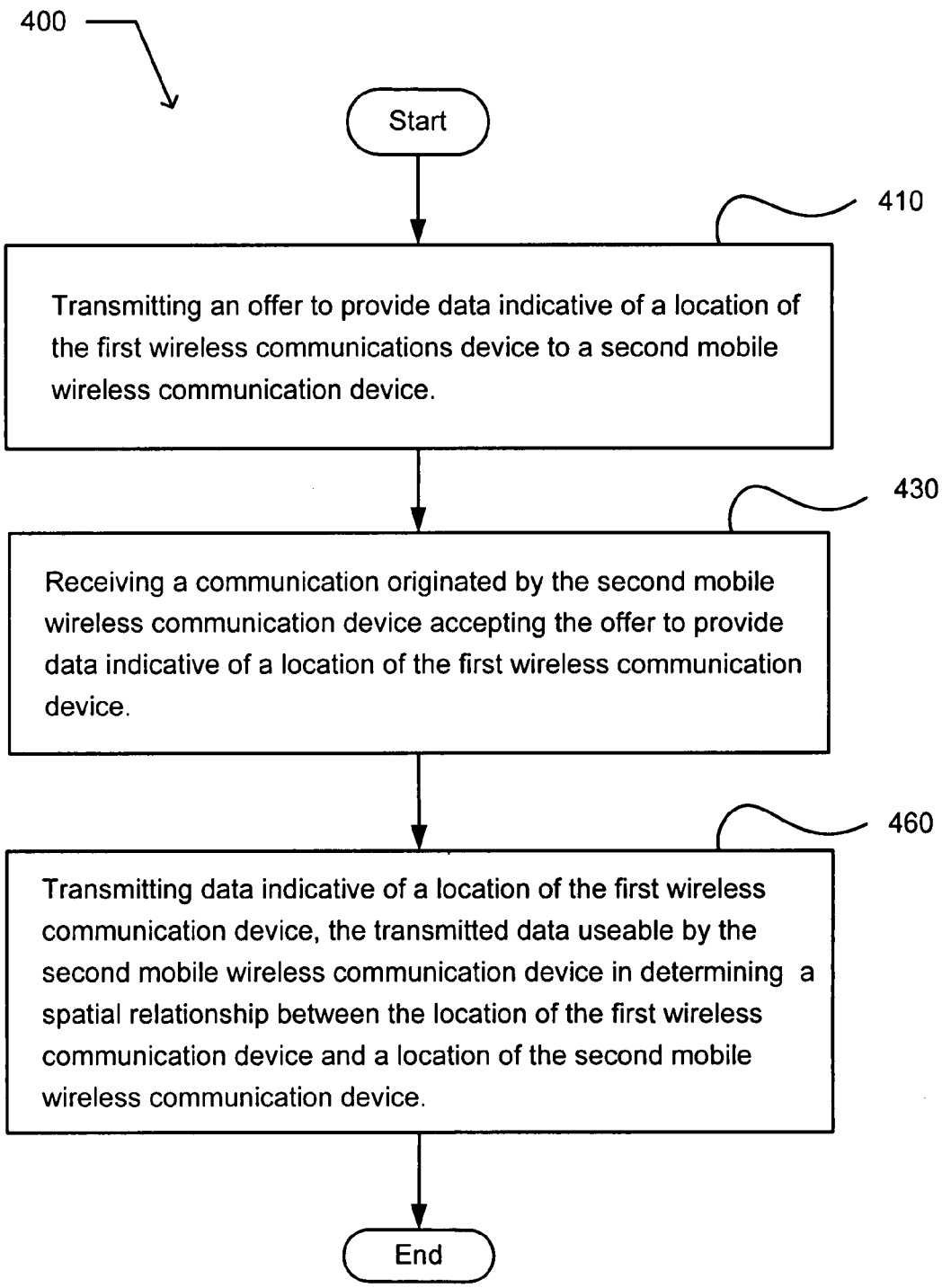

300
Start
310
Automatically providing data indicative of a location of a first mobile wireless communications device from the first mobile wireless communications device to a second mobile wireless communications device in response to respective human-user imitated authorizations exchanged between the two mobile wireless communications devices.
End

FIG. 5


400
Start
410
Transmitting an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device.
430
Receiving a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.
460
Transmitting data indicative of a location of the first wireless communication device, the transmitted data useable by the second mobile wireless communication device in determining a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device.
End

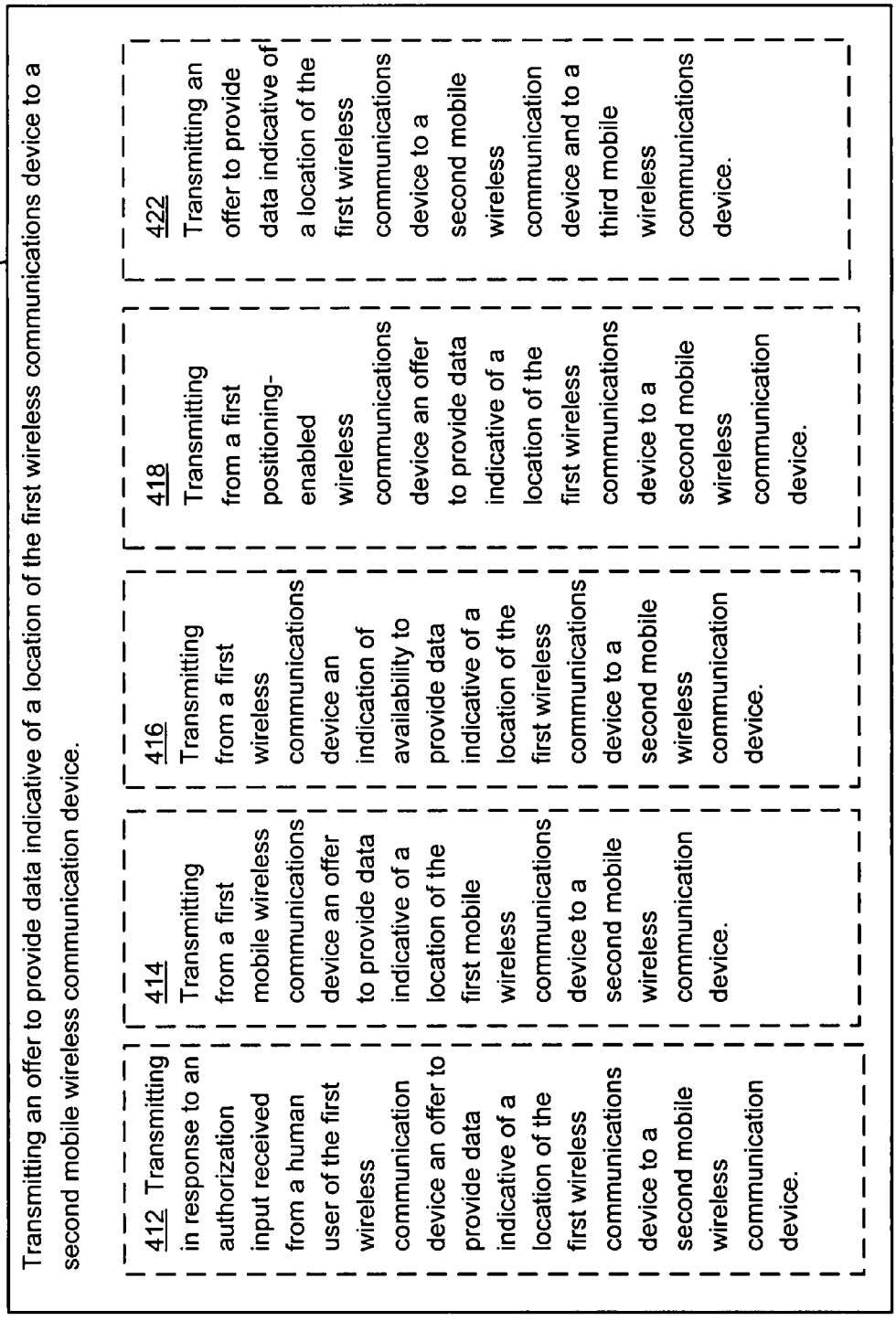

410
Transmitting an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device.
412 Transmitting in response to an authorization input received from a human user of the first wireless communication device an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device.
414 Transmitting from a first mobile wireless communications device an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device.
416 Transmitting from a first wireless communications device an indication of availability to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device.
418 Transmitting from a first positioning-enabled wireless communications device an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device.
422 Transmitting an offer to provide data indicative of a location of the first wireless communications device and to a third mobile wireless communications device.

FIG. 6

FIG. 7

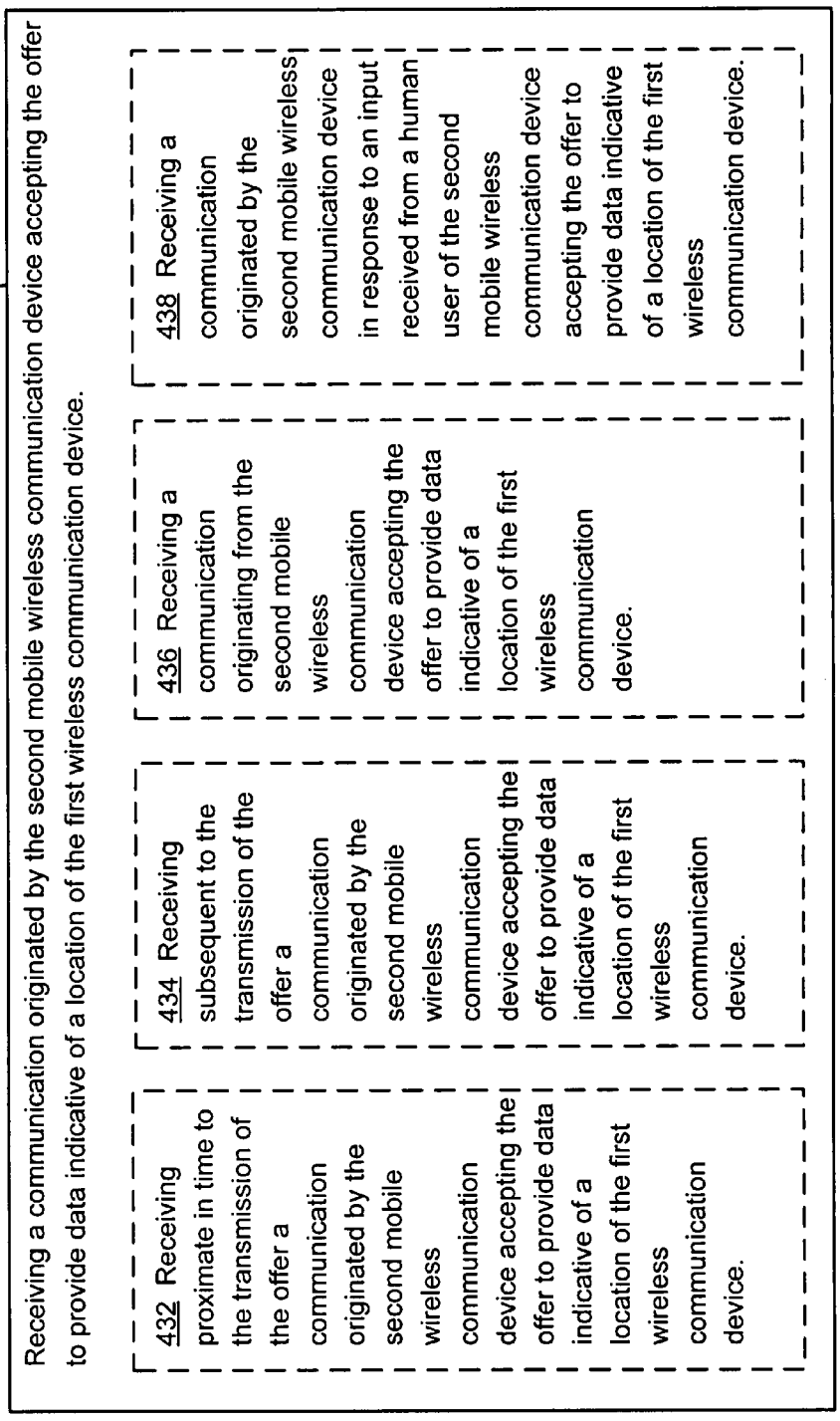

430
Receiving a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.
432 Receiving proximate in time to the transmission of the offer a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.
434 Receiving subsequent to the transmission of the offer a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.
436 Receiving a communication originating from the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.
438 Receiving a communication originated by the second mobile wireless communication device in response to an input received from a human user of the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.

FIG. 8

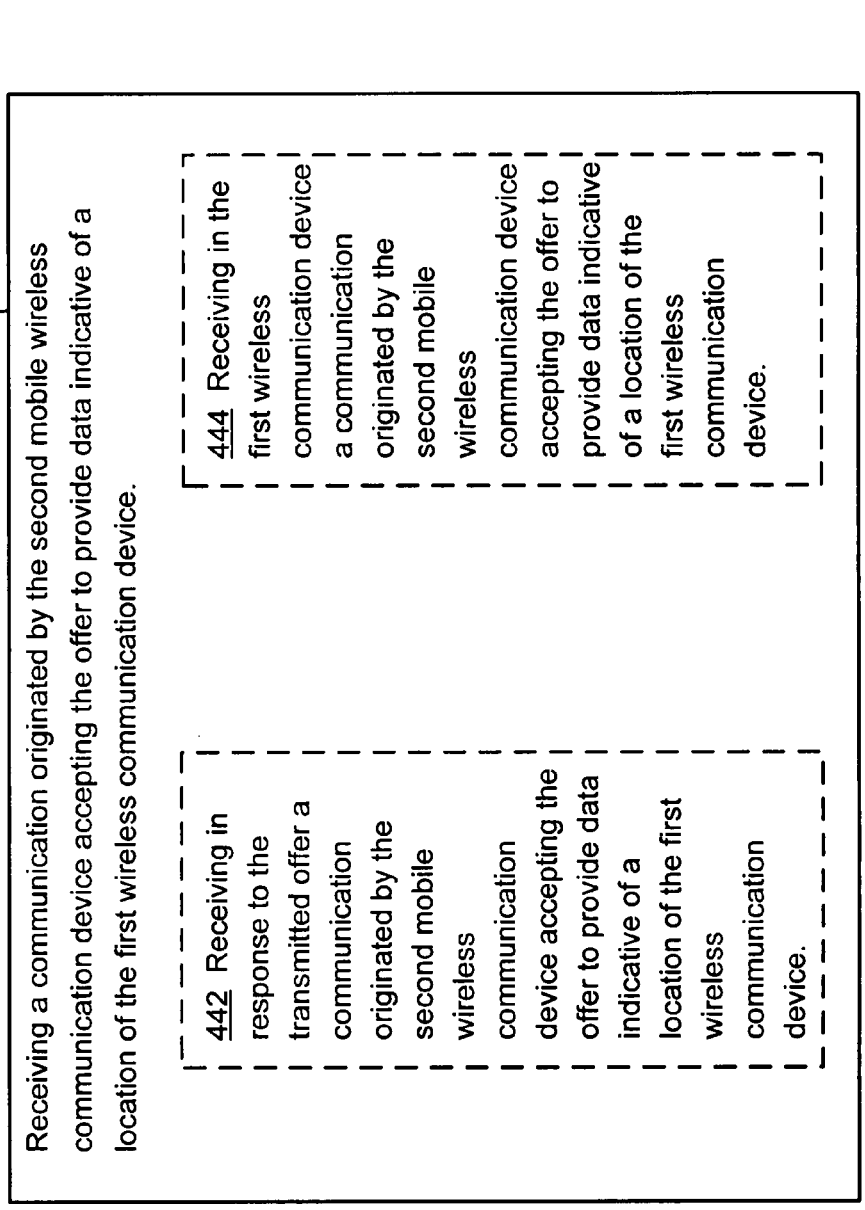
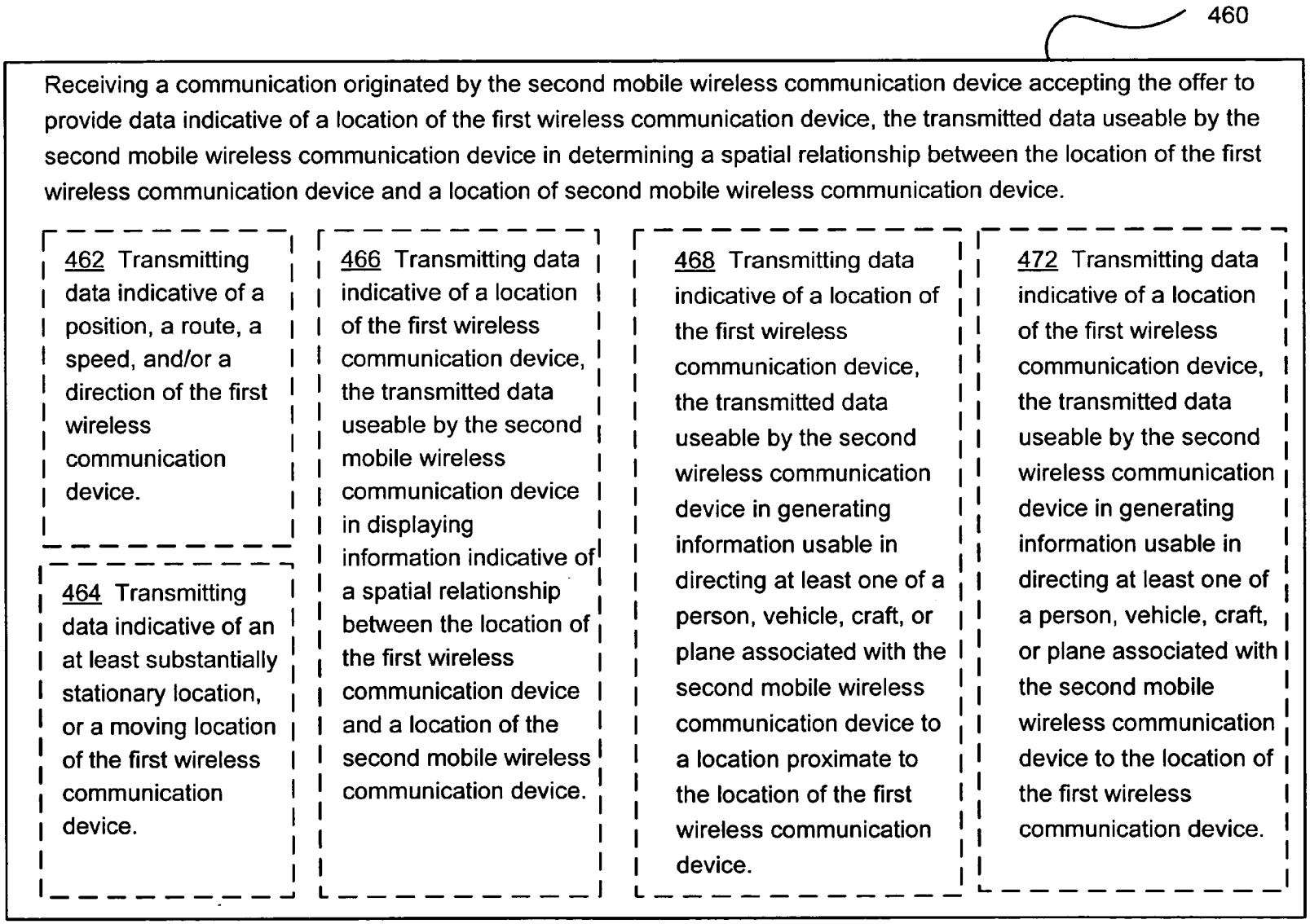

430
Receiving a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.
442 Receiving in response to the transmitted offer a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.
444 Receiving in the first wireless communication device a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.

FIG. 9


460
Receiving a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device, the transmitted data useable by the second mobile wireless communication device in determining a spatial relationship between the location of the first wireless communication device and a location of second mobile wireless communication device.
462 Transmitting data indicative of a position, a route, a speed, and/or a direction of the first wireless communication device.
464 Transmitting data indicative of an at least substantially stationary location, or a moving location of the first wireless communication device.
466 Transmitting data indicative of a location of the first wireless communication device, the transmitted data useable by the second mobile wireless communication device in displaying information indicative of a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device.
468 Transmitting data indicative of a location of the first wireless communication device, the transmitted data useable by the second wireless communication device in generating information usable in directing at least one of a person, vehicle, craft, or plane associated with the second mobile wireless communication device to a location proximate to the location of the first wireless communication device.
472 Transmitting data indicative of a location of the first wireless communication device, the transmitted data useable by the second wireless communication device in generating information usable in directing at least one of a person, vehicle, craft, or plane associated with the second mobile wireless communication device to the location of the first wireless communication device.

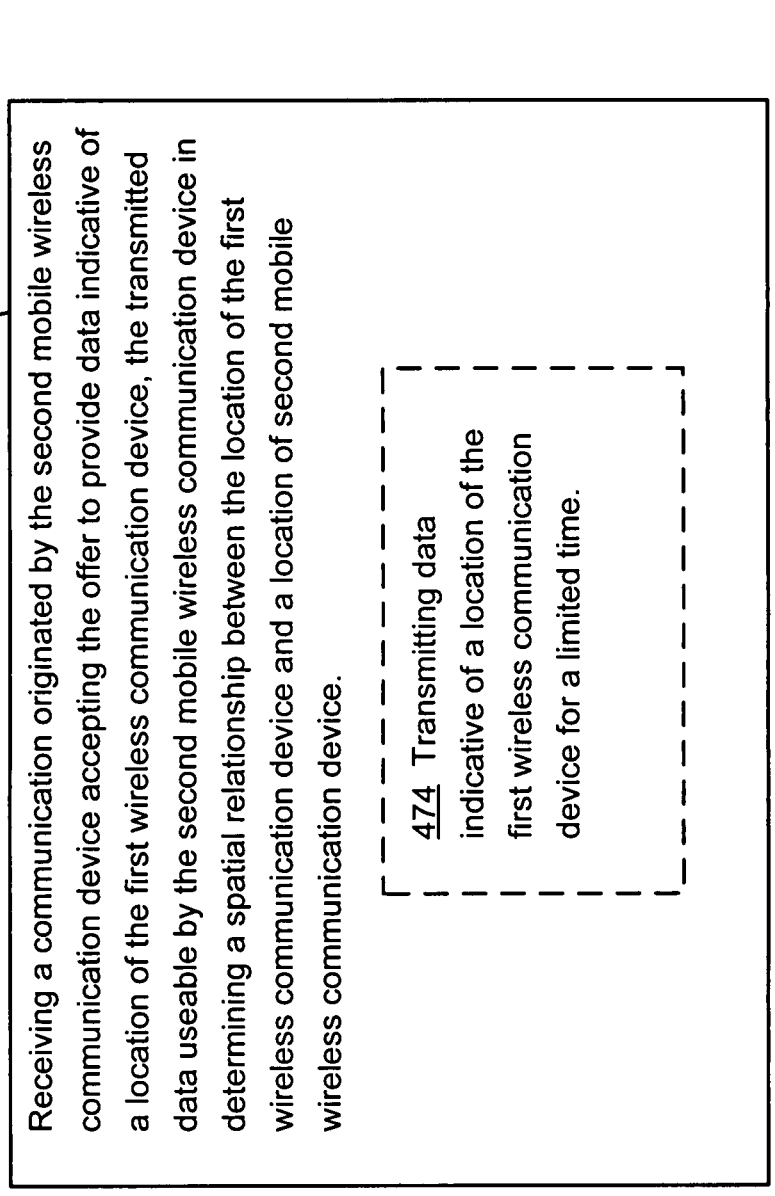

460
Receiving a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device, the transmitted data useable by the second mobile wireless communication device in determining a spatial relationship between the location of the first wireless communication device and a location of second mobile wireless communication device.
474 Transmitting data indicative of a location of the first wireless communication device for a limited time.

FIG. 10

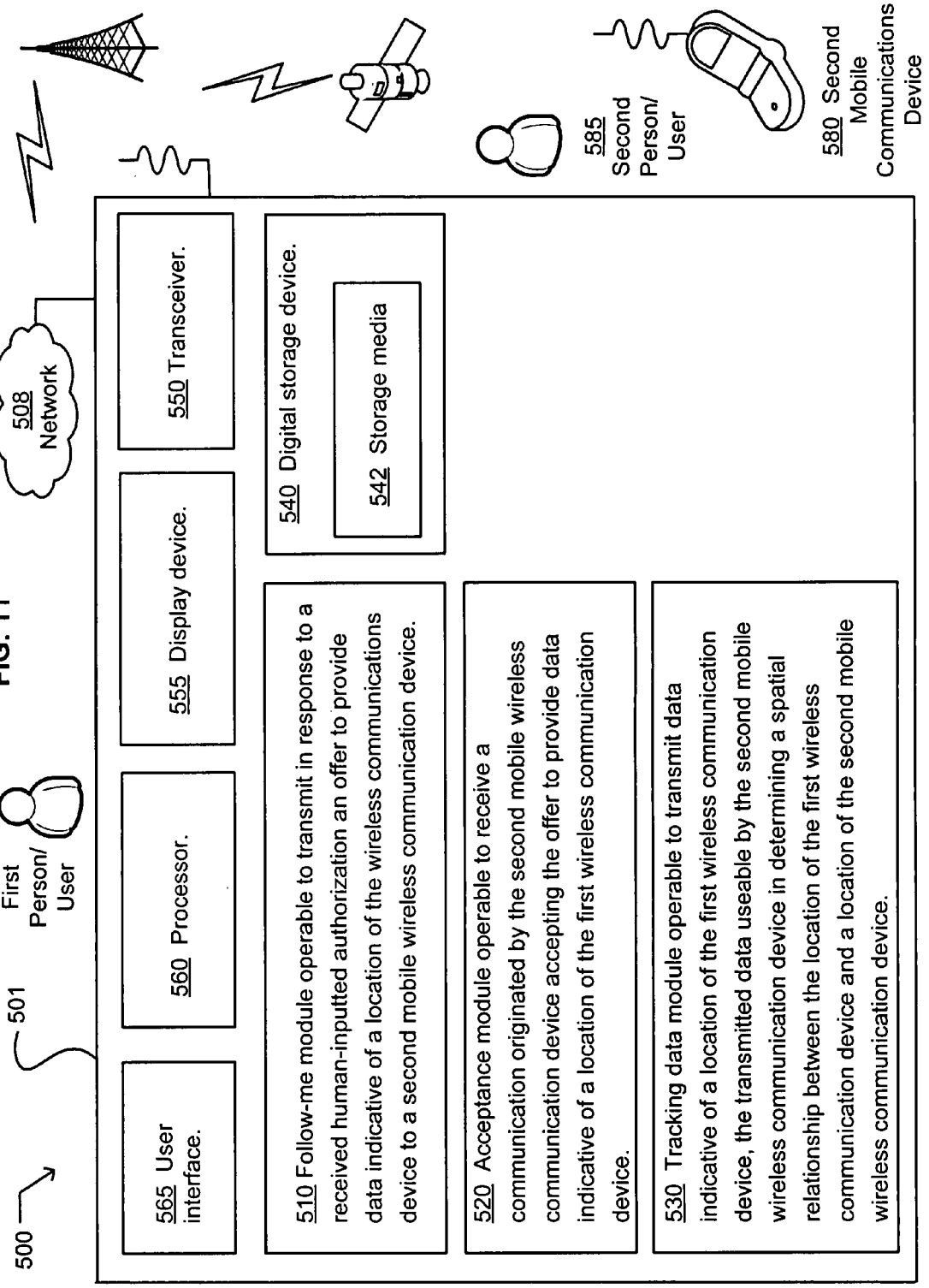

500
501
505 First Person/ User
565 User interface.
560 Processor.
555 Display device.
550 Transceiver.
508 Network
540 Digital storage device.
542 Storage media
510 Follow-me module operable to transmit in response to a received human-inputted authorization an offer to provide data indicative of a location of the wireless communications device to a second mobile wireless communication device.
520 Acceptance module operable to receive a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.
530 Tracking data module operable to transmit data indicative of a location of the first wireless communication device, the transmitted data useable by the second mobile wireless communication device in determining a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device.
585 Second Person/ User
580 Second Mobile Communications Device

FIG. 11

FIG. 12

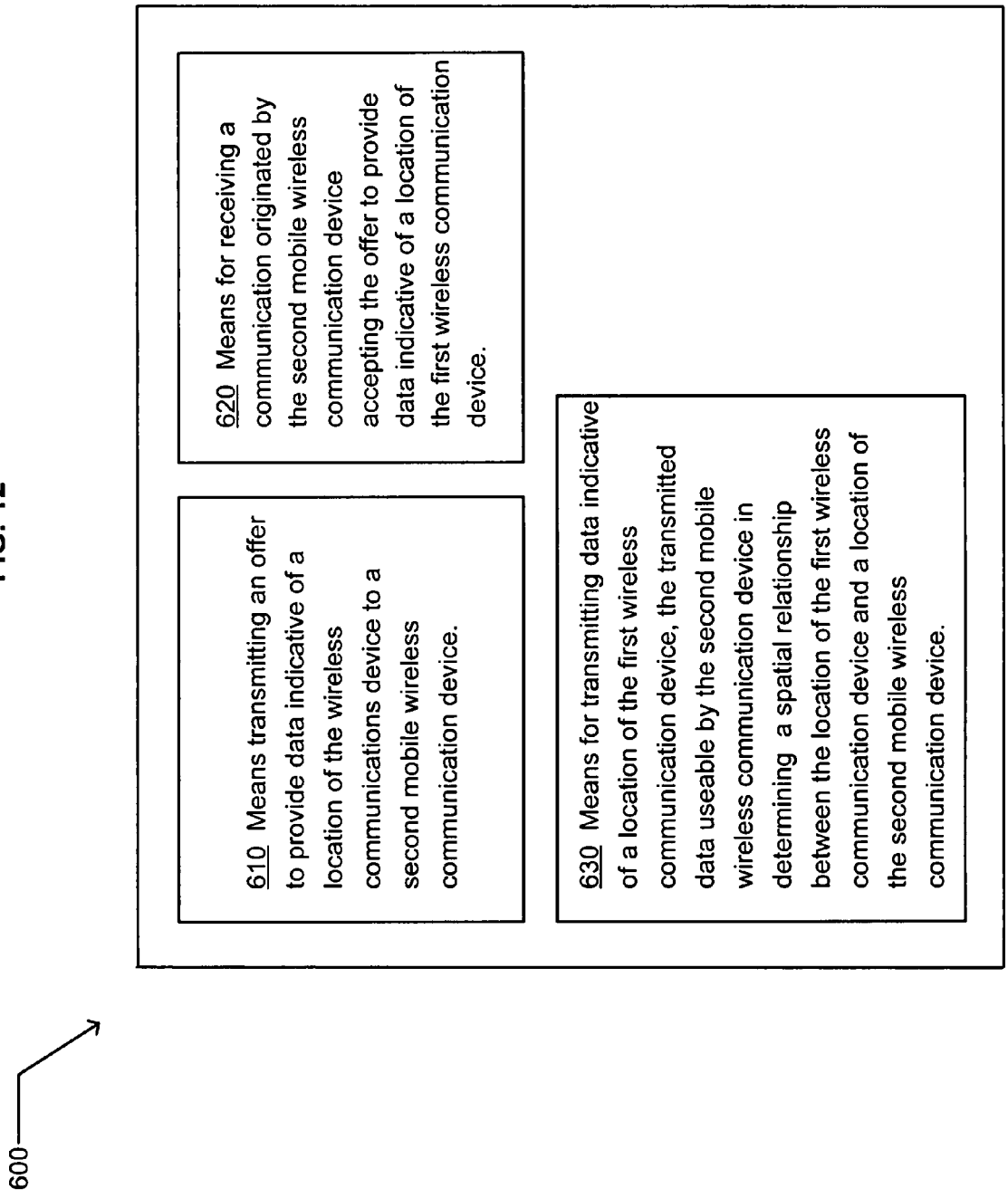

600
610 Means transmitting an offer to provide data indicative of a location of the wireless communications device to a second mobile wireless communication device.
620 Means for receiving a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.
630 Means for transmitting data indicative of a location of the first wireless communication device, the transmitted data useable by the second mobile wireless communication device in determining a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device.

FIG. 13

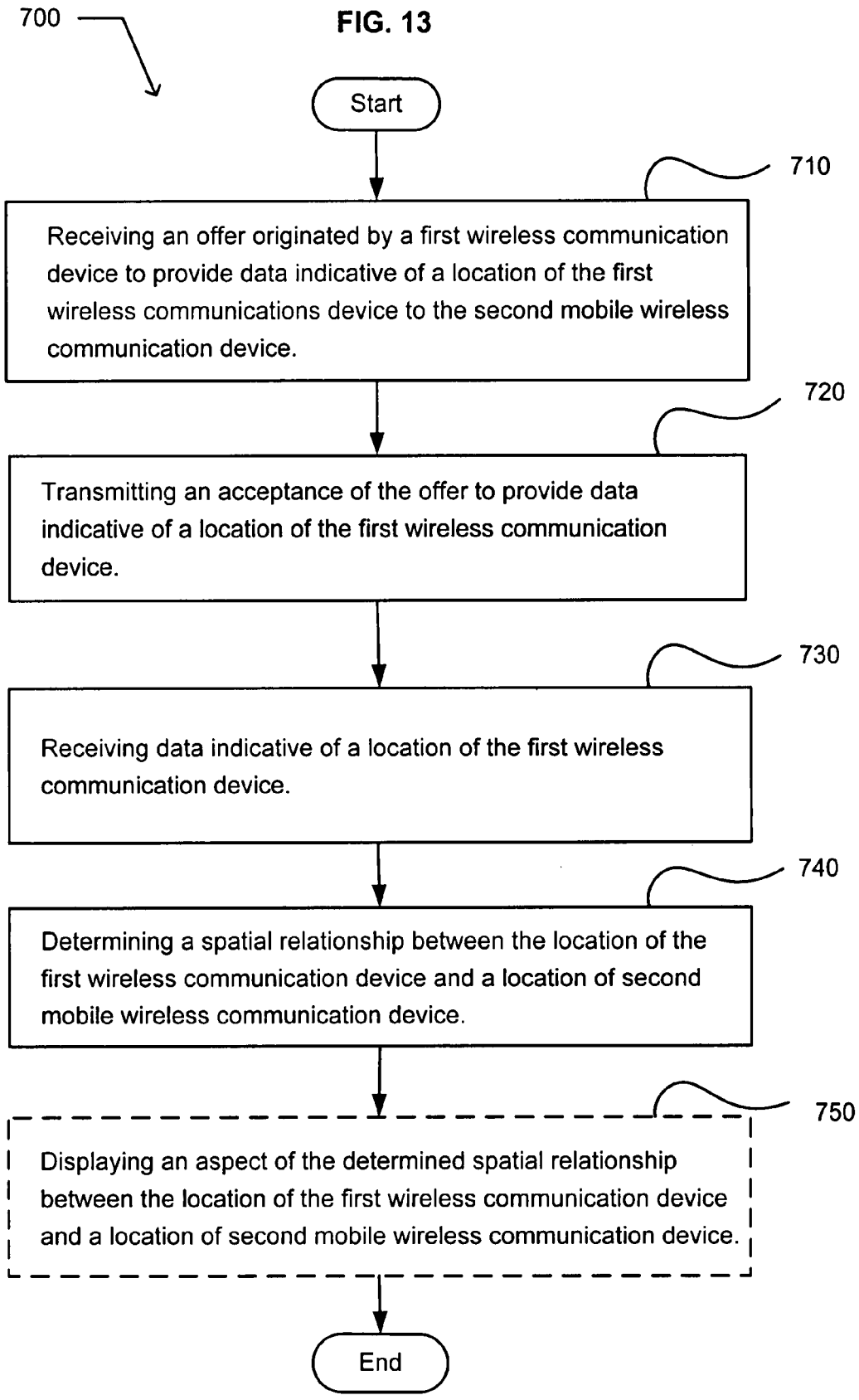
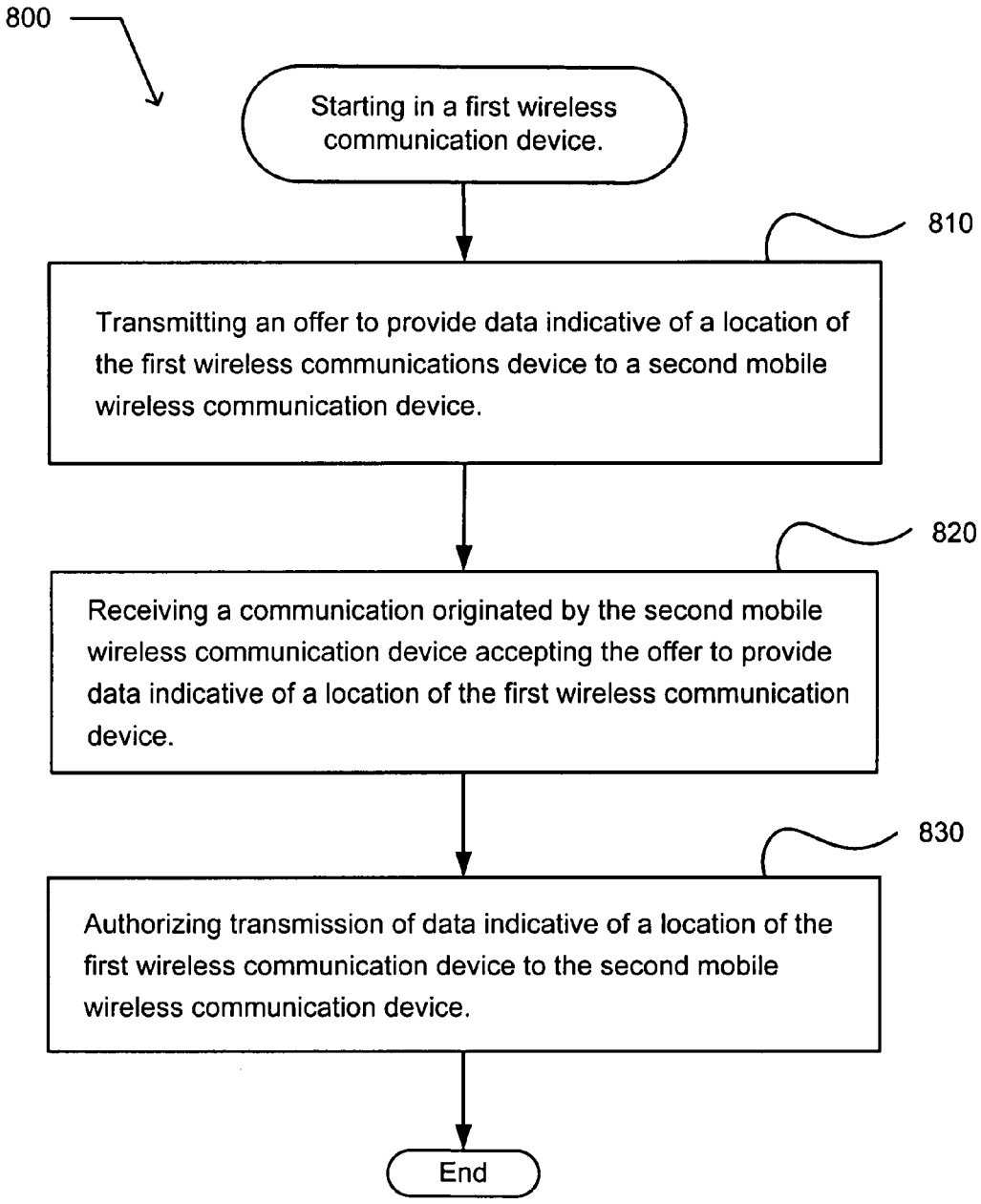

700
Start
710
Receiving an offer originated by a first wireless communication device to provide data indicative of a location of the first wireless communications device to the second mobile wireless communication device.
720
Transmitting an acceptance of the offer to provide data indicative of a location of the first wireless communication device.
730
Receiving data indicative of a location of the first wireless communication device.
740
Determining a spatial relationship between the location of the first wireless communication device and a location of second mobile wireless communication device.
750
Displaying an aspect of the determined spatial relationship between the location of the first wireless communication device and a location of second mobile wireless communication device.
End

FIG. 14


800
Starting in a first wireless communication device.
810
Transmitting an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device.
820
Receiving a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.
830
Authorizing transmission of data indicative of a location of the first wireless communication device to the second mobile wireless communication device.
End

AUTHORIZED TRANSMISSION OF NAVIGATION ASSISTANCE

SUMMARY

An embodiment provides method. The method includes automatically providing data indicative of a location of a first mobile wireless communications device from the first mobile wireless communications device to a second mobile wireless communications device in response to respective human-user imitated authorizations exchanged between the two mobile wireless communications devices. In addition to the foregoing, other method embodiments are described in the claims, drawings, and text that form a part of the present application.

Another embodiment provides a method performed in a first wireless communication device. The method includes transmitting an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device. The method also includes receiving a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The method further includes transmitting data indicative of a location of the first wireless communication device. The transmitted data is useable by the second mobile wireless communication device in determining a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device. In addition to the foregoing, other method embodiments are described in the claims, drawings, and text that form a part of the present application.

A further embodiment provides a first wireless communication device. The first wireless communication device includes a follow-me module operable to transmit in response to a received human-inputted authorization an offer to provide data indicative of a location of the wireless communications device to a second mobile wireless communication device. The first wireless communication device also includes an acceptance module operable to receive a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The first wireless communication device further includes a tracking data module operable to transmit data indicative of a location of the first wireless communication device. The transmitted data is useable by the second mobile wireless communication device in determining a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device. In addition to the foregoing, other device embodiments are described in the claims, drawings, and text that form a part of the present application.

An embodiment provides a wireless communication apparatus. The apparatus includes means for transmitting an offer to provide data indicative of a location of the wireless communications device to a second mobile wireless communication device. The apparatus also provides means for receiving a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The apparatus further includes means for transmitting data indicative of a location of the first wireless communication device. The transmitted data is useable by the second mobile wireless communication device in determining a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device. In addition to the foregoing, other apparatus embodiments are described in the claims, drawings, and text that form a part of the present application.

Another embodiment provides a method performed in a second wireless mobile communications device. The method includes receiving an offer originated by a first wireless communication device to provide data indicative of a location of the first wireless communications device to the second mobile wireless communication device. The method also includes transmitting an acceptance of the offer to provide data indicative of a location of the first wireless communication device. The method further includes receiving data originated by the first wireless communication device indicative of a location of the first wireless communication device. The method also includes determining a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device. In addition to the foregoing, other method embodiments are described in the claims, drawings, and text that form a part of the present application.

A further embodiment provides a method performed in a first wireless communication device. The method includes transmitting an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device. The method also includes receiving a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The method further includes authorizing transmission of data indicative of a location of the first wireless communication device to the second mobile wireless communication device. In addition to the foregoing, other method embodiments are described in the claims, drawings, and text that form a part of the present application.

The foregoing summary is illustrative only and is not intended to be in any way limiting. In addition to the illustrative aspects, embodiments, and features described above, further aspects, embodiments, and features will become apparent by reference to the drawings and the following detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** illustrates an exemplary embodiment of a thin computing device in which embodiments may be implemented;

FIG. **2** illustrates an exemplary embodiment of a general-purpose computing system in which embodiments may be implemented;

FIG. **3** illustrates an exemplary system in which embodiments may be implemented;

FIG. **4** illustrates an example of an operational flow;

FIG. **5** illustrates an example of an operational flow performed in a first wireless communication device;

FIG. **6** illustrates an alternative embodiment of the operational flow described in conjunction with FIG. **5**;

FIG. **7** illustrates another alternative embodiment of the operational flow described in conjunction with FIG. **5**;

FIG. **8** illustrates a further alternative embodiment of the operational flow described in conjunction with FIG. **5**;

FIG. **9** illustrates an alternative embodiment of the operational flow described in conjunction with FIG. **5**;

FIG. **10** illustrates another alternative embodiment of the operational flow described in conjunction with FIG. **5**;

FIG. **11** illustrates an example system;

FIG. **12** illustrates an example wireless communications apparatus;

FIG. **13** illustrates an example operational flow implemented in a second wireless mobile communications device; and

FIG. **14** illustrates an example operational flow performed in a first wireless communication device.

DETAILED DESCRIPTION

In the following detailed description, reference is made to the accompanying drawings, which form a part hereof. In the drawings, similar symbols typically identify similar components, unless context dictates otherwise. The illustrated embodiments described in the detailed description, drawings, and claims are not meant to be limiting. Other embodiments may be utilized, and other changes may be made, without departing from the spirit or scope of the subject matter presented here.

FIG. **1** and the following discussion are intended to provide a brief, general description of an environment in which embodiments may be implemented. FIG. **1** illustrates an exemplary system that includes a thin computing device **20**, which may be included in an electronic device that also includes a device functional element **50**. For example, the electronic device may include any item having electrical and/or electronic components playing a role in a functionality of the item, such as a limited resource computing device, a wireless communication device, a mobile wireless communication device, an electronic pen, a handheld electronic writing device, a digital camera, a scanner, an ultrasound device, an x-ray machine, a non-invasive imaging device, a cell phone, a printer, a refrigerator, a car, and an airplane. The thin computing device **20** includes a processing unit **21**, a system memory **22**, and a system bus **23** that couples various system components including the system memory **22** to the processing unit **21**. The system bus **23** may be any of several types of bus structures including a memory bus or memory controller, a peripheral bus, and a local bus using any of a variety of bus architectures. The system memory includes read-only memory (ROM) **24** and random access memory (RAM) **25**. A basic input/output system (BIOS) **26**, containing the basic routines that help to transfer information between sub-components within the thin computing device **20**, such as during start-up, is stored in the ROM **24**. A number of program modules may be stored in the ROM **24** and/or RAM **25**, including an operating system **28**, one or more application programs **29**, other program modules **30** and program data **31**.

A user may enter commands and information into the computing device **20** through input devices, such as a number of switches and buttons, illustrated as hardware buttons **44**, connected to the system via a suitable interface **45**. Input devices may further include a touch-sensitive display screen **32** with suitable input detection circuitry **33**. The output circuitry of the touch-sensitive display **32** is connected to the system bus **23** via a video driver **37**. Other input devices may include a microphone **34** connected through a suitable audio interface **35**, and a physical hardware keyboard (not shown). In addition to the display **32**, the computing device **20** may include other peripheral output devices, such as at least one speaker **38**.

Other external input or output devices **39**, such as a joystick, game pad, satellite dish, scanner or the like may be connected to the processing unit **21** through a USB port **40** and USB port interface **41**, to the system bus **23**. Alternatively, the other external input and output devices **39** may be connected by other interfaces, such as a parallel port, game port or other port. The computing device **20** may further include or be capable of connecting to a flash card memory (not shown) through an appropriate connection port (not shown). The computing device **20** may further include or be capable of connecting with a network through a network port **42** and network interface **43**, and through wireless port **46** and corresponding wireless interface **47** may be provided to facilitate communication with other peripheral devices, including other computers, printers, and so on (not shown). It will be appreciated that the various components and connections shown are exemplary and other components and means of establishing communications links may be used.

The computing device **20** may be primarily designed to include a user interface. The user interface may include a character, a key-based, and/or another user data input via the touch sensitive display **32**. The user interface may include using a stylus (not shown). Moreover, the user interface is not limited to an actual touch-sensitive panel arranged for directly receiving input, but may alternatively or in addition respond to another input device such as the microphone **34**. For example, spoken words may be received at the microphone **34** and recognized. Alternatively, the computing device **20** may be designed to include a user interface having a physical keyboard (not shown).

The device functional elements **50** are typically application specific and related to a function of the electronic device, and is coupled with the system bus **23** through an interface (not shown). The functional elements may typically perform a single well-defined task with little or no user configuration or setup, such as a refrigerator keeping food cold, a cell phone connecting with an appropriate tower and transceiving voice or data information, and a camera capturing and saving an image.

FIG. **2** illustrates an exemplary embodiment of a general-purpose computing system in which embodiments may be implemented, shown as a computing system environment **100**. Components of the computing system environment **100** may include, but are not limited to, a computing device **110** having a processing unit **120**, a system memory **130**, and a system bus **121** that couples various system components including the system memory to the processing unit **120**. The system bus **121** may be any of several types of bus structures including a memory bus or memory controller, a peripheral bus, and a local bus using any of a variety of bus architectures. By way of example, and not limitation, such architectures include Industry Standard Architecture (ISA) bus, Micro Channel Architecture (MCA) bus, Enhanced ISA (EISA) bus, Video Electronics Standards Association (VESA) local bus, and Peripheral Component Interconnect (PCI) bus, also known as Mezzanine bus.

The computing system environment **100** typically includes a variety of computer-readable media products. Computer-readable media may include any media that can be accessed by the computing device **110** and include both volatile and nonvolatile media, removable and non-removable media. By way of example, and not of limitation, computer-readable media may include computer storage media and communications media. Computer storage media includes volatile and nonvolatile, removable and non-removable media implemented in any method or technology for storage of information such as computer-readable instructions, data structures, program modules, or other data. Computer storage media includes, but is not limited to, random-access memory (RAM), read-only memory (ROM), electrically erasable programmable read-only memory (EEPROM), flash memory, or other memory technology, CD-ROM, digital versatile disks (DVD), or other optical disk storage, magnetic cassettes, magnetic tape, magnetic disk storage, or other magnetic storage devices, or any other medium which can be used to store

the desired information and which can be accessed by the computing device **110**. In a further embodiment, a computer storage media may include a group of computer storage media devices. In another embodiment, a computer storage media may include an information store. In another embodiment, an information store may include a quantum memory, a photonic quantum memory, and/or atomic quantum memory. Combinations of any of the above may also be included within the scope of computer-readable media.

Communications media may typically embody computer-readable instructions, data structures, program modules, or other data in a modulated data signal such as a carrier wave or other transport mechanism and include any information delivery media. The term "modulated data signal" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. By way of example, and not limitation, communications media include wired media such as a wired network and a direct-wired connection and wireless media such as acoustic, RF, optical, and infrared media.

The system memory **130** includes computer storage media in the form of volatile and nonvolatile memory such as ROM **131** and RAM **132**. A RAM may include at least one of a DRAM, an EDO DRAM, a SDRAM, a RDRAM, a VRAM, and/or a DDR DRAM. A basic input/output system (BIOS) **133**, containing the basic routines that help to transfer information between elements within the computing device **110**, such as during start-up, is typically stored in ROM **131**. RAM **132** typically contains data and program modules that are immediately accessible to or presently being operated on by processing unit **120**. By way of example, and not limitation, FIG. **2** illustrates an operating system **134**, application programs **135**, other program modules **136**, and program data **137**. Often, the operating system **134** offers services to applications programs **135** by way of one or more application programming interfaces (APIs) (not shown). Because the operating system **134** incorporates these services, developers of applications programs **135** need not redevelop code to use the services. Examples of APIs provided by operating systems such as Microsoft's "WINDOWS" are well known in the art.

The computing device **110** may also include other removable/non-removable, volatile/nonvolatile computer storage media products. By way of example only, FIG. **2** illustrates a non-removable non-volatile memory interface (hard disk interface) **140** that reads from and writes for example to non-removable, non-volatile magnetic media. FIG. **2** also illustrates a removable non-volatile memory interface **150** that, for example, is coupled to a magnetic disk drive **151** that reads from and writes to a removable, non-volatile magnetic disk **152**, and/or is coupled to an optical disk drive **155** that reads from and writes to a removable, non-volatile optical disk **156**, such as a CD ROM. Other removable/nonremovable, volatile/non-volatile computer storage media that can be used in the exemplary operating environment include, but are not limited to, magnetic tape cassettes, memory cards, flash memory cards, DVDs, digital video tape, solid state RAM, and solid state ROM. The hard disk drive **141** is typically connected to the system bus **121** through a non-removable memory interface, such as the interface **140**, and magnetic disk drive **151** and optical disk drive **155** are typically connected to the system bus **121** by a removable non-volatile memory interface, such as interface **150**.

The drives and their associated computer storage media discussed above and illustrated in FIG. **2** provide storage of computer-readable instructions, data structures, program modules, and other data for the computing device **110**. In FIG. **2**, for example, hard disk drive **141** is illustrated as storing an operating system **144**, application programs **145**, other program modules **146**, and program data **147**. Note that these components can either be the same as or different from the operating system **134**, application programs **135**, other program modules **136**, and program data **137**. The operating system **144**, application programs **145**, other program modules **146**, and program data **147** are given different numbers here to illustrate that, at a minimum, they are different copies. A user may enter commands and information into the computing device **110** through input devices such as a microphone **163**, keyboard **162**, and pointing device **161**, commonly referred to as a mouse, trackball, or touch pad. Other input devices (not shown) may include a joystick, game pad, satellite dish, and scanner. These and other input devices are often connected to the processing unit **120** through a user input interface **160** that is coupled to the system bus, but may be connected by other interface and bus structures, such as a parallel port, game port, or a universal serial bus (USB). A monitor **191** or other type of display device is also connected to the system bus **121** via an interface, such as a video interface **190**. In addition to the monitor, computers may also include other peripheral output devices such as speakers **197** and printer **196**, which may be connected through an output peripheral interface **195**.

The computing system environment **100** may operate in a networked environment using logical connections to one or more remote computers, such as a remote computer **180**. The remote computer **180** may be a personal computer, a server, a router, a network PC, a peer device, or other common network node, and typically includes many or all of the elements described above relative to the computing device **110**, although only a memory storage device **181** has been illustrated in FIG. **2**. The network logical connections depicted in FIG. **2** include a local area network (LAN) and a wide area network (WAN), and may also include other networks such as a personal area network (PAN) (not shown). Such networking environments are commonplace in offices, enterprise-wide computer networks, intranets, and the Internet.

When used in a networking environment, the computing system environment **100** is connected to the network **171** through a network interface, such as the network interface **170**, the modem **172**, and/or the wireless interface **193**. The network may include a LAN network environment, and/or a WAN network environment, such as the Internet. In a networked environment, program modules depicted relative to the computing device **110**, or portions thereof, may be stored in a remote memory storage device. By way of example, and not limitation, FIG. **2** illustrates remote application programs **185** as residing on computer storage medium **181**. It will be appreciated that the network connections shown are exemplary and other means of establishing communications link between the computers may be used.

FIG. **3** illustrates an example system **200** in which embodiments may be implemented. The example system includes a first wireless communications device **204**, a user interface **206**, a display **207**, and wireless access to at least one other wireless communication device, illustrated as a second mobile wireless mobile communications device **290**. The user interface may be physically incorporated with the device, or may be physically separate from the device and electronically coupled with the device. The display **207** may be physically incorporated with the device, or may be physically separate from the device and electronically coupled with the device. In an alternative embodiment, the device is also coupled to a network **208** via a wireless link, a satellite link, and/or a wired link.

In an embodiment, the first wireless communications device **204** includes a navigation assistance offer authorization circuit **210**, an offer acceptance determining circuit **230**, and a location information circuit **260**. In some embodiments, one or more of the navigation assistance offer authorization circuit, the offer acceptance determining circuit, and/or the location information circuit may be structurally distinct from the remaining circuits. In an embodiment, the device or a portion of the device may be implemented in whole or in part using the thin computing device **20** described in conjunction with FIG. **1** and/or the computing device **110** described in conjunction with FIG. **2**. In another embodiment, the device or a portion of the device may be implemented using Application Specific Integrated Circuits (ASICs), Field Programmable Gate Arrays (FPGAs), digital signal processors (DSPs), or other integrated formats. In a further embodiment, one or more of the circuits and/or the machine may be implemented in hardware, software, and/or firmware. A person **205** may via a user interface **206** use the device **204**.

The first wireless communication device **204** may include at least one additional circuit. The at least one additional circuit may include a transceiver circuit **270**. In addition, the first wireless communication device may include a processor (not illustrated), such as the processing unit **21** described in conjunction with FIG. **1**, and/or the processor **120** described in conjunction with FIG. **2**. In further addition, the first wireless communications unit may include a computer storage media (not illustrated). In an embodiment, the first wireless communication device may include a mobile wireless communication device **214**, and/or a positioning enabled wireless communication device **218**.

In an embodiment, the navigation assistance offer authorization circuit **210** may include at least one additional circuit. The at least one additional circuit may include a human-initiated offer circuit **212**, a location data availability circuit **216**, and/or an offer authorization to at least two mobile wireless devices circuit **222**.

In another embodiment, the offer acceptance determining circuit **230** may include at least one additional circuit. The at least one additional circuit may include an acceptance response time determining circuit **232**, an acceptance response sequence determining circuit **234**, an acceptance origination determining circuit **236**, a human-initiated offer acceptance determining circuit **238**, a reply determining circuit **242**, and/or localized offer acceptance determining circuit **244**.

In a further embodiment, the location information circuit **260** may include at least one additional circuit. The at least one additional circuit may include a location parameter information circuit **262**, a static/dynamic location information circuit **264**, and/or a paired device location information circuit **266**.

FIG. **4** illustrates an example of an operational flow **300**. FIG. **4** and several following figures may include various examples of operational flows, discussions, and explanations with respect to the above-described system **200** of FIG. **3**, and/or with respect to other examples and contexts. However, it should be understood that the operational flows may be executed in a number of other environment and contexts, and/or in modified versions of FIG. **3**. Also, although the various operational flows are illustrated in a sequence(s), it should be understood that the various operations may be performed in other orders than those which are illustrated, and/or may be performed concurrently.

After a start operation, the operational flow **300** includes automatically providing data indicative of a location of a first mobile wireless communications device from the first mobile wireless communications device to a second mobile wireless communications device in response to respective human-user imitated authorizations exchanged between the two mobile wireless communications devices. The operational flow then moves to an end operation.

In an alternative embodiment, the automatically providing data indicative of a location of a first mobile wireless communications device includes automatically and continuously providing for a period of time data indicative of a location of a first mobile wireless communications device. The period of time may include a fixed period of time, such as one hour, twelve hours, twenty-four, or some other measure of time. The period of time may include a determined time or a calculated time. For example, a determined time may include a time during which the location of the first mobile wireless communication device has not significantly changed, such as no significant location change for more than two hours. A calculated time may include a time when the first mobile wireless communication device and the second mobile wireless communication device have been within a 30-foot radius of each other for more than one hour. Upon the end of the period of time, the providing data indicative of a location of a first mobile wireless communications device ends.

In an embodiment, the automatically providing data indicative of a location of a first mobile wireless communications device may be implemented using the location information circuit **260** of FIG. **3**. In another embodiment, the first mobile wireless communications device may be implemented using the first mobile wireless communications device **214**. A first human-user initiated authorization may be implemented by the first person/user **205** providing an authorization input to the user interface **206**, and by the navigation assistance offer authorization circuit **210** transmitting an offer of navigation assistance via the transceiver circuit **270** in a format and manner receivable by the second mobile wireless communications device **290**. A second human-user initiated authorization may be implemented by the second person/user **295** providing an authorization input to a user interface (not shown) of the second mobile wireless communications device, and by the offer being transmitted by the second mobile wireless communications device in a format and manner receivable by the first wireless communications device **204**. In an alternative embodiment, the respective human-user imitated authorizations exchanged between the two mobile wireless communications devices are exchanged contemporaneously. For example, in an embodiment, contemporaneously includes the first wireless communications device **204** and the second mobile wireless communications device **290** exchanging the respective human-user imitated authorizations within a five-minute window of time. In another embodiment, contemporaneously includes the first wireless communications device **204** and the second mobile wireless communications device **290** exchanging the respective human-user imitated authorizations within less than a one-minute window of time. In a further embodiment, contemporaneously includes the first wireless communications device **204** and the second mobile wireless communications device **290** exchanging the respective human-user imitated authorizations by a physical touching of the devices together. For example, the physical touching may include the second person/user holding the second mobile wireless communication device in their hand, and touching the second mobile wireless communication device to the first wireless communication device. In another example, both the first wireless communications device and the second mobile wireless communication may be handheld by their respective users and touched together.

FIG. **5** illustrates an example of an operational flow **400** performed in a first wireless communication device. FIG. **5** and several following figures may include various examples of operational flows, discussions, and explanations with respect to the above-described system **200** of FIG. **3**, and/or with respect to other examples and contexts. However, it should be understood that the operational flows may be executed in a number of other environment and contexts, and/or in modified versions of FIG. **3**. Also, although the various operational flows are illustrated in a sequence(s), it should be understood that the various operations may be performed in other orders than those which are illustrated, and/or may be performed concurrently.

After a start operation, the operational flow **400** includes an assistance offer operation **410**. The assistance offer operation includes transmitting an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device. In an embodiment, the first wireless communications device includes a stationary, a mobile, handheld, and/or vehicle borne first wireless communications device. In another embodiment, the second mobile wireless communications device includes a handheld, and/or vehicle borne first wireless communications device. The assistance offer operation may be implemented using the assistance offer authorization circuit **210** of FIG. **3**. An authorization operation **430** receives a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The authorization operation may be implemented using the offer acceptance determining circuit **230** of FIG. **3**. A navigation assistance operation **460** transmits data indicative of a location of the first wireless communication device. The transmitted data is useable by the second mobile wireless communication device in determining a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device. The navigation assistance operation may be implemented using the location information circuit **260** of FIG. **3**. The operational flow then proceeds to an end operation.

FIG. **6** illustrates an alternative embodiment of the operational flow **400** described in conjunction with FIG. **5**. The navigation assistance offer operation **410** may include at least one additional operation. The at least one additional operation may include an operation **412**, an operation **414**, an operation **416**, an operation **418**, and/or an operation **422**. The operation **412** transmits in response to an authorization input received from a human user of the first wireless communication device an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device. The operation **412** may be implemented using the human-initiated offer circuit **212** of FIG. **3**. The operation **414** transmits from a first mobile wireless communications device an offer to provide data indicative of a location of the first mobile wireless communications device to a second mobile wireless communication device. The operation **414** may be implemented using the first mobile wireless communication device **214** of FIG. **3**. The operation **416** transmits from a first wireless communications device an indication of availability to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device. The operation **416** may be implemented using the location data availability circuit **216** of FIG. **3**.

The operation **418** transmits from a first positioning-enabled wireless communications device an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device. In an embodiment, a positioning-enabled wireless communications device includes a communications device operable to at least one of know, determine, or receive from another source its position. For example, in an embodiment, a positioning-enabled wireless communications device is operable to obtain its position from a global positioning satellite system. In another embodiment, a positioning-enabled wireless communications device is operable to obtain its position from information obtained from its host network, such as a cell phone network operator. In a further embodiment, a positioning-enabled wireless communications device is operable to receive its position from its host network, such as a cell phone network operator. The operation **418** may be implemented using the first positioning-enabled wireless communication device **218** of FIG. **3**.

The operation **422** transmits an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device and to a third mobile wireless communications device. The operation **422** may be implemented using the offer authorization to at least two wireless devices circuit **222** of FIG. **3**.

FIG. **7** illustrates another alternative embodiment of the operational flow **400** described in conjunction with FIG. **5**. The authorization operation **430** may include at least one additional operation. The at least one additional operation may include an operation **432**, an operation **434**, an operation **436**, and/or an operation **438**. The operation **432** receives, proximate in time to the transmission of the offer, a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. In an embodiment, proximate in time includes close in time. For example, close in time includes separated by seconds, or minutes. The operation **432** may be implemented using the acceptance response time determining circuit **232** of FIG. **3**. The operation **434** receives, subsequent to the transmission of the offer, a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The operation **434** may be implemented using the acceptance response sequence determining circuit **234**. The operation **436** receives a communication originating from the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The operation **436** may be implemented using the acceptance origination determination circuit **236**. The operation **438** receives a communication originated by the second mobile wireless communication device in response to an input received from a human user of the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The operation **438** may be implemented using the human-initiated offer acceptance determination circuit **238**.

FIG. **8** illustrates a further alternative embodiment of the operational flow **400** described in conjunction with FIG. **5**. The authorization operation **430** may include at least one additional operation. The at least one additional operation may include an operation **442**, and/or an operation **444**. The operation **442** receives, in response to the transmitting the offer, a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The operation **442** may be implemented using the reply determining circuit **242**. The operation **444** receives in

the first wireless communication device a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The operation **444** may be implemented using the localized offer acceptance determination circuit **244**.

FIG. **9** illustrates an alternative embodiment of the operational flow **400** described in conjunction with FIG. **5**. The navigation assistance operation **460** may include at least one additional operation. The at least one additional operation may include an operation **462**, an operation **464**, an operation **466**, an operation **468**, and/or an operation **472**. The operation **462** transmits data indicative of a position, a route, a speed, and/or a direction of the first wireless communication device. The operation **462** may be implemented using the location parameter information circuit **262** of FIG. **3**. The operation **464** transmits data indicative of an at least substantially stationary location, or a moving location of the first wireless communication device. The operation **464** may be implemented using the static/dynamic location information circuit **264**. The operation **466** transmits data indicative of a location of the first wireless communication device. The transmitted data is useable by the second mobile wireless communication device in displaying information indicative of a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device. For example, the displaying information may include at least one of visually displaying the information or audibly displaying the information. The operation **466** may be implemented using the paired device location information circuit **266**. The operation **468** transmits data indicative of a location of the first wireless communication device. The transmitted data being useable by the second wireless communication device in generating information usable in directing at least one of a person, vehicle, craft, or plane associated with the second mobile wireless communication device to a location proximate to the location of the first wireless communication device. The operation **468** may be implemented using the paired device location information circuit **266**. The operation **472** transmits data indicative of a location of the first wireless communication device. The transmitted data is useable by the second wireless communication device in generating information usable in directing at least one of a person, vehicle, craft, or plane associated with the second mobile wireless communication device to the location of the first wireless communication device. For example, the information usable in directing at least one of a person, vehicle, craft, or plane associated with the second mobile wireless communication device may include a map indicating relative positions of both, a route, or directions. The operation **472** may be implemented using the paired device location information circuit **266**.

FIG. **10** illustrates another alternative embodiment of the operational flow **400** described in conjunction with FIG. **5**. The navigation assistance operation **460** may include at least one additional operation. The at least one additional operation may include an operation **474**. The operation **474** transmits data indicative of a location of the first wireless communication device for a limited time.

FIG. **11** illustrates an example system **500**. The system includes a first wireless communication device **501** that includes a follow-me module **510**, an acceptance module **520**, and a tracking module **530**. In an embodiment, the wireless communication device may include at least one of a digital storage device **540**, a transceiver **550**, a display device **555**, a processor **560**, or a user interface **565**.

The follow-me module **510** includes a follow-me module operable to transmit in response to a received human-inputted authorization an offer to provide data indicative of a location of the wireless communications device **501** to a second mobile wireless communication device **580**. In an embodiment, the received human-inputted authorization includes receiving an inputted authorization by a first person/user **505** via a user interface **565**. The acceptance module **520** is operable to receive a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The tracking data module **530** includes a tracking data module operable to transmit data indicative of a location of the first wireless communication device. The transmitted data is useable by the second mobile wireless communication device in determining a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device. In an alternative embodiment, the tracking data module includes a tracking data module operable to transmit data indicative of changes in location of the first wireless communication device. In an embodiment, the digital storage device **540** includes computer storage media, such as the computer storage media described in conjunction with FIG. **2**.

FIG. **12** illustrates an example wireless communications apparatus **600**. The apparatus includes means **610** for transmitting an offer to provide data indicative of a location of the wireless communications device to a second mobile wireless communication device. The apparatus also include means **620** for receiving a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. The apparatus further includes means **630** for transmitting data indicative of a location of the first wireless communication device. The transmitted data is useable by the second mobile wireless communication device in determining a spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device.

FIG. **13** illustrates an example operational flow **700** implemented in a second wireless mobile communications device. After a start operation, the operational flow moves to a reception operation **710**. The reception operation receives an offer originated by a first wireless communication device to provide data indicative of a location of the first wireless communications device to the second mobile wireless communication device. In an embodiment, the first wireless communication device may include at least one of a stationary, a mobile, handheld, or vehicle borne wireless communication device. In another embodiment, the second mobile wireless communication device may include at least one of a handheld, or vehicle borne mobile wireless communication device. A response operation **720** transmits an acceptance of the offer to provide data indicative of a location of the first wireless communication device. An acquisition operation **730** receives data indicative of a location of the first wireless communication device. In an alternative embodiment, the data indicative of a location of the first wireless communications device includes data originated by the first wireless communication device. In another alternative embodiment, the data indicative of a location of the first wireless communications device includes data originated by a network host for the first wireless communication device, such as a cell phone provider. A navigation operation **740** determines a spatial relationship between the location of the first wireless

communication device and a location of the second mobile wireless communication device. The operational flow then moves to an end operation.

In an alternative embodiment, the operational flow **700** may include at least one additional operation, such as a user-assistance operation **750**. The user-assistance operation displays an aspect of the determined spatial relationship between the location of the first wireless communication device and a location of the second mobile wireless communication device.

FIG. **14** illustrates an example operational flow **800** performed in a first wireless communication device. After a start operation performed in a first wireless communication device, the operational flow includes an availability announcement operation **810**. The availability announcement operation transmits an offer to provide data indicative of a location of the first wireless communications device to a second mobile wireless communication device. A pairing operation **820** receives a communication originated by the second mobile wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device. An assistance operation **830** authorizes transmission of data indicative of a location of the first wireless communication device to the second mobile wireless communication device. For example, in an embodiment, the transmission of data indicative of a location of the first wireless communication device may be sourced from at least one of the first mobile wireless communication device, or a cellular communications network provider. The operational flow then moves to an end operation.

The foregoing detailed description has set forth various embodiments of the systems, apparatus, devices, computer program products, and/or processes using block diagrams, flow diagrams, operation diagrams, flowcharts, illustrations, and/or examples. A particular block diagram, operation diagram, flowchart, illustration, environment, and/or example should not be interpreted as having any dependency or requirement relating to any one or combination of components illustrated therein. For example, in certain instances, one or more elements of an environment may be deemed not necessary and omitted. In other instances, one or more other elements may be deemed necessary and added.

Insofar as such block diagrams, operation diagrams, flowcharts, illustrations, and/or examples contain one or more functions and/or operations, it will be understood that each function and/or operation within such block diagrams, operation diagrams, flowcharts, illustrations, or examples can be implemented, individually and/or collectively, by a wide range of hardware, software, firmware, or virtually any combination thereof unless otherwise indicated. In an embodiment, several portions of the subject matter described herein may be implemented via Application Specific Integrated Circuits (ASICs), Field Programmable Gate Arrays (FPGAs), digital signal processors (DSPs), or other integrated formats. However, those skilled in the art will recognize that some aspects of the embodiments disclosed herein, in whole or in part, can be equivalently implemented in circuits, as one or more computer programs running on one or more computers (e.g., as one or more programs running on one or more computer systems), as one or more programs running on one or more processors (e.g., as one or more programs running on one or more microprocessors), as firmware, or as virtually any combination thereof, and that designing the circuitry and/or writing the code for the software and or firmware would be well within the skill of one of skill in the art in light of this disclosure. In addition, those skilled in the art will appreciate that the mechanisms of the subject matter described herein are capable of being distributed as a program product in a variety of forms, and that an illustrative embodiment of the subject matter described herein applies regardless of the particular type of signal bearing medium used to actually carry out the distribution. Examples of a signal bearing medium include, but are not limited to, the following: a recordable type medium such as a floppy disk, a hard disk drive, a Compact Disc (CD), a Digital Video Disk (DVD), a digital tape, a computer memory, etc.; and a transmission type medium such as a digital and/or an analog communication medium (e.g., a fiber optic cable, a waveguide, a wired communications link, a wireless communication link, etc.).

Those having skill in the art will recognize that the state of the art has progressed to the point where there is little distinction left between hardware and software implementations of aspects of systems; the use of hardware or software is generally (but not always, in that in certain contexts the choice between hardware and software can become significant) a design choice representing cost vs. efficiency tradeoffs. Those having skill in the art will appreciate that there are various vehicles by which processes and/or systems and/or other technologies described herein can be effected (e.g., hardware, software, and/or firmware), and that the preferred vehicle will vary with the context in which the processes and/or systems and/or other technologies are deployed. For example, if an implementer determines that speed and accuracy are paramount, the implementer may opt for a mainly hardware and/or firmware vehicle; alternatively, if flexibility is paramount, the implementer may opt for a mainly software implementation; or, yet again alternatively, the implementer may opt for some combination of hardware, software, and/or firmware. Hence, there are several possible vehicles by which the processes and/or devices and/or other technologies described herein may be effected, none of which is inherently superior to the other in that any vehicle to be utilized is a choice dependent upon the context in which the vehicle will be deployed and the specific concerns (e.g., speed, flexibility, or predictability) of the implementer, any of which may vary. Those skilled in the art will recognize that optical aspects of implementations will typically employ optically-oriented hardware, software, and or firmware. Those skilled in the art will recognize that optical aspects of implementations will typically employ optically-oriented hardware, software, and or firmware.

In a general sense, those skilled in the art will recognize that the various aspects described herein which can be implemented, individually and/or collectively, by a wide range of hardware, software, firmware, or any combination thereof can be viewed as being composed of various types of "electrical circuitry." Consequently, as used herein "electrical circuitry" includes, but is not limited to, electrical circuitry having at least one discrete electrical circuit, electrical circuitry having at least one integrated circuit, electrical circuitry having at least one application specific integrated circuit, electrical circuitry forming a general purpose computing device configured by a computer program (e.g., a general purpose computer configured by a computer program which at least partially carries out processes and/or devices described herein, or a microprocessor configured by a computer program which at least partially carries out processes and/or devices described herein), electrical circuitry forming a memory device (e.g., forms of random access memory), and/or electrical circuitry forming a communications device (e.g., a modem, communications switch, or optical-electrical equipment). Those having skill in the art will recognize that the subject matter described herein may be implemented in an analog or digital fashion or some combination thereof.

It will be understood by those within the art that, in general, terms used herein, and especially in the appended claims (e.g., bodies of the appended claims) are generally intended as "open" terms (e.g., the term "including" should be interpreted as "including but not limited to," the term "having" should be interpreted as "having at least," the term "includes" should be interpreted as "includes but is not limited to," etc.).

It will be further understood by those within the art that if a specific number of an introduced claim recitation is intended, such an intent will be explicitly recited in the claim, and in the absence of such recitation no such intent is present. For example, as an aid to understanding, the following appended claims may contain usage of the introductory phrases "at least one" and "one or more" to introduce claim recitations. However, the use of such phrases should not be construed to imply that the introduction of a claim recitation by the indefinite articles "a" or "an" limits any particular claim containing such introduced claim recitation to inventions containing only one such recitation, even when the same claim includes the introductory phrases "one or more" or "at least one" and indefinite articles such as "a" or "an" (e.g., "a" and/or "an" should typically be interpreted to mean "at least one" or "one or more"); the same holds true for the use of definite articles used to introduce claim recitations. In addition, even if a specific number of an introduced claim recitation is explicitly recited, those skilled in the art will recognize that such recitation should typically be interpreted to mean at least the recited number (e.g., the bare recitation of "two recitations," without other modifiers, typically means at least two recitations, or two or more recitations).

Furthermore, in those instances where a convention analogous to "at least one of A, B, and C, etc." is used, in general such a construction is intended in the sense one having skill in the art would understand the convention (e.g., "a system having at least one of A, B, and C" would include but not be limited to systems that have A alone, B alone, C alone, A and B together, A and C together, B and C together, and/or A, B, and C together, etc.). In those instances where a convention analogous to "at least one of A, B, or C, etc." is used, in general such a construction is intended in the sense one having skill in the art would understand the convention (e.g., "a system having at least one of A, B, or C" would include but not be limited to systems that have A alone, B alone, C alone, A and B together, A and C together, B and C together, and/or A, B, and C together, etc.). It will be further understood by those within the art that virtually any disjunctive word and/or phrase presenting two or more alternative terms, whether in the description, claims, or drawings, should be understood to contemplate the possibilities of including one of the terms, either of the terms, or both terms. For example, the phrase "A or B" will be understood to include the possibilities of "A" or "B" or "A and B."

The herein described aspects depict different components contained within, or connected with, different other components. It is to be understood that such depicted architectures are merely exemplary, and that in fact many other architectures can be implemented which achieve the same functionality. In a conceptual sense, any arrangement of components to achieve the same functionality is effectively "associated" such that the desired functionality is achieved. Hence, any two components herein combined to achieve a particular functionality can be seen as "associated with" each other such that the desired functionality is achieved, irrespective of architectures or intermedial components. Likewise, any two components so associated can also be viewed as being "operably connected," or "operably coupled," to each other to achieve the desired functionality. Any two components capable of being so associated can also be viewed as being "operably couplable" to each other to achieve the desired functionality. Specific examples of operably couplable include but are not limited to physically mateable and/or physically interacting components and/or wirelessly interactable and/or wirelessly interacting components.

While various aspects and embodiments have been disclosed herein, other aspects and embodiments will be apparent to those skilled in the art. The various aspects and embodiments disclosed herein are for purposes of illustration and are not intended to be limiting, with the true scope and spirit being indicated by the following claims.

What is claimed is:

1. A method comprising:

exchanging one or more human-user initiated authorizations between a first wireless communications device and a second wireless communications device, the exchanging the one or more human-user initiated authorizations including at least transmitting from the first wireless communications device to the second wireless communications device an offer to provide data indicative of a location of the first wireless communications device, the exchanging one or more human-user initiated authorizations further including at least receiving at the first wireless communications device an affirmative reply to the offer, the affirmative reply being received within a predetermined time window relative to the offer; and

automatically and periodically, in response to at least one of the one or more human-user initiated authorizations, providing data indicative of the location of the first wireless communications device from the first wireless communications device to the second wireless communications device at least for a limited period of time and within a predetermined radius of the first wireless communications device relative to a location of the second wireless communications device, and further including providing data indicative of at least a position, a route, a speed, and a direction of the first wireless communications device.

2. A first wireless communication device comprising:

circuitry for transmitting from the first wireless communication device to a second wireless communication device an offer to provide data indicative of a location of the first wireless communication device;

circuitry for receiving a communication originated by the second wireless communication device accepting the offer to provide data indicative of the location of the first wireless communication device, wherein the circuitry for receiving a communication is configured to receive the communication within a predetermined time window relative to the offer; and

circuitry for transmitting data indicative of the location of the first wireless communication device, the circuitry for transmitting data configured to transmit data useable by the second wireless communication device for determining a spatial relationship between the location of the first wireless communication device and a location of the second wireless communication device, the circuitry for transmitting data further configured to automatically and periodically transmit the data indicative of the location of the first wireless communication device at least for a limited period of time and within a predetermined radius of the first wireless communication device relative to the location of the second wireless communication device, and the circuitry for transmitting data further configured to transmit data indicative of at least a

position, a route, a speed, and a direction of the first wireless communication device.

3. The device of claim 2, wherein the circuitry for transmitting from the first wireless communication device to a second wireless communication device an offer to provide data indicative of a location of the first wireless communication device comprises:

circuitry for transmitting from the first wireless communication device to the second wireless communication device, in response to an authorization input received via a user interface of the first wireless communication device an offer to provide data indicative of a location of the first wireless communication device.

4. The device of claim 2, wherein the circuitry for transmitting from the first wireless communication device to a second wireless communication device an offer to provide data indicative of a location of the first wireless communication device comprises:

circuitry for transmitting from the first wireless communication device to the second wireless communication device, an indication of availability to provide data indicative of a location of the first wireless communication device.

5. The device of claim 2, wherein the circuitry for receiving a communication originated by the second wireless communication device accepting the offer to provide data indicative of the location of the first wireless communication device comprises:

circuitry for receiving proximate in time to the transmission of the offer a communication originated by the second wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.

6. The device of claim 2, wherein the circuitry for receiving a communication originated by the second wireless communication device accepting the offer to provide data indicative of the location of the first wireless communication device comprises:

circuitry for receiving subsequent to the transmission of the offer a communication originated by the second wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.

7. The device of claim 2, wherein the circuitry for receiving a communication originated by the second wireless communication device accepting the offer to provide data indicative of the location of the first wireless communication device comprises:

circuitry for receiving a communication originated by the second wireless communication device responsive to input acquired via a user interface of the second wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.

8. The device of claim 2, wherein the circuitry for receiving a communication originated by the second wireless communication device accepting the offer to provide data indicative of the location of the first wireless communication device comprises:

circuitry for receiving in response to the transmitted offer a communication originated by the second wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.

9. The device of claim 2, wherein the circuitry for receiving a communication originated by the second wireless communication device accepting the offer to provide data indicative of the location of the first wireless communication device comprises:

circuitry for receiving in the first wireless communication device a communication originated by the second wireless communication device accepting the offer to provide data indicative of a location of the first wireless communication device.

10. The device of claim 2, wherein the circuitry for transmitting data indicative of the location of the first wireless communication device, comprises:

circuitry for transmitting data indicative of at least one of a stationary location or a moving location of the first wireless communication device.

11. The device of claim 2, wherein the circuitry for transmitting data indicative of the location of the first wireless communication device, the circuitry for transmitting data further configured to transmit data useable by the second wireless communication device for determining a spatial relationship between the location of the first wireless communication device and a location of the second wireless communication device, comprises:

circuitry for transmitting data configured to be useable by the second wireless communication device for displaying information indicative of a spatial relationship between the location of the first wireless communication device and the location of the second wireless communication device.

12. The device of claim 2, wherein the circuitry for transmitting data indicative of the location of the first wireless communication device, the circuitry for transmitting data configured to transmit data useable by the second wireless communication device for determining a spatial relationship between the location of the first wireless communication device and a location of the second wireless communication device, comprises:

circuitry for transmitting data configured to be useable by the second wireless communication device in generating information usable for directing at least one of a person, vehicle, craft, or plane associated with the second wireless communication device to a location proximate to the location of the first wireless communication device.

13. The device of claim 2, wherein the circuitry for transmitting data indicative of the location of the first wireless communication device, the circuitry for transmitting data configured to transmit data useable by the second wireless communication device for determining a spatial relationship between the location of the first wireless communication device and a location of the second wireless communication device, comprises:

circuitry for transmitting data configured to be useable by the second wireless communication device in generating information usable for directing at least one of a person, vehicle, craft, or plane associated with the second wireless communication device to the location of the first wireless communication device.

14. The device of claim 2, wherein the circuitry for transmitting data indicative of the location of the first wireless communication device, the circuitry for transmitting data configured to transmit data useable by the second wireless communication device for determining a spatial relationship between the location of the first wireless communication device and a location of the second wireless communication device, the circuitry for transmitting data further configured to automatically and periodically transmit the data indicative of the location of the first wireless communication device at least for a limited period of time and within a predetermined

radius of the first wireless communication device relative to the location of the second wireless communication device, and the circuitry for transmitting data further configured to transmit data indicative of at least a position, a route, a speed, and a direction of the first wireless communication device, comprises:

circuitry for automatically and periodically transmitting the data indicative of a location of the first wireless communication device at least until an end of a limited period of time that includes at least one of a predetermined period of time during which a location of the first wireless communication device is unchanged or a predetermined period of time during which the first communication device and the second communication device are within a predetermined distance of each other.

15. The device of claim **2**, wherein the circuitry for transmitting from the first wireless communication device to a second wireless communication device an offer to provide data indicative of a location of the first wireless communication device comprises:

circuitry for transmitting from the first wireless communication device to the second wireless communication device, an offer to provide data indicative of a location of the first wireless communication device to the second wireless communication device and to a third wireless communication device.

16. The device of claim **2**, wherein the circuitry for transmitting data indicative of the location of the first wireless communication device, the circuitry for transmitting data configured to transmit data useable by the second wireless communication device for determining a spatial relationship between the location of the first wireless communication device and a location of the second wireless communication device, comprises:

circuitry for transmitting data configured to be audibly presented by the second wireless communication device to audibly indicate information indicative of a spatial relationship between the location of the first wireless communication device and the location of the second wireless communication device.

17. The system of claim **2**, wherein the circuitry for transmitting data indicative of the location of the first wireless communication device, the circuitry for transmitting data configured to transmit data useable by the second wireless communication device for determining a spatial relationship between the location of the first wireless communication device and a location of the second wireless communication device, the circuitry for transmitting data further configured to automatically and periodically transmit the data indicative of the location of the first wireless communication device at least for a limited period of time and within a predetermined radius of the first wireless communication device relative to the location of the second wireless communication device, and the circuitry for transmitting data further configured to transmit data indicative of at least a position, a route, a speed, and a direction of the first wireless communication device comprises:

circuitry configured for transmitting the data indicative of the location of the first wireless communication device periodically by at least transmitting the data at least one of continuously or at pre-defined intervals.

18. The system of claim **17**, wherein the circuitry configured for transmitting the data indicative of the location of the first wireless communication device periodically by at least transmitting the data at least one of continuously or at predefined intervals comprises:

circuitry for transmitting the data indicative of the location of the first wireless communication device at predefined intervals wherein the prefined intervals include at least one of variable or regular intervals.

19. The system of claim **2**, wherein the circuitry for transmitting data indicative of the location of the first wireless communication device, the circuitry for transmitting data configured to transmit data useable by the second wireless communication device for determining a spatial relationship between the location of the first wireless communication device and a location of the second wireless communication device, the circuitry for transmitting data further configured to automatically and periodically transmit the data indicative of the location of the first wireless communication device at least for a limited period of time and within a predetermined radius of the first wireless communication device relative to the location of the second wireless communication device, and the circuitry for transmitting data further configured to transmit data indicative of at least a position, a route, a speed, and a direction of the first wireless communication device comprises:

circuitry configured to transmit data indicative of at least a position of the first wireless communication device by at least transmitting data indicative of a position of the first wireless communication device relative to at least one of a map or a geographic area.

20. The system of claim **2**, wherein the circuitry for transmitting data indicative of the location of the first wireless communication device, the circuitry for transmitting data configured to transmit data useable by the second wireless communication device for determining a spatial relationship between the location of the first wireless communication device and a location of the second wireless communication device, the circuitry for transmitting data further configured to automatically and periodically transmit the data indicative of the location of the first wireless communication device at least for a limited period of time and within a predetermined radius of the first wireless communication device relative to the location of the second wireless communication device, and the circuitry for transmitting data further configured to transmit data indicative of at least a position, a route, a speed, and a direction of the first wireless communication device comprises:

circuitry configured to transmit data indicative of at least a direction of the first wireless communication device by at least transmitting data indicative of a direction of movement of the first wireless communication device.

21. A first wireless communication device comprising:

a follow-me module configured to transmit, from the first wireless communication device to a second wireless communication device, in response to an authorization acquired via a user input interface of the first wireless communication device, an offer to provide data indicative of a location of the first wireless communication device to the second wireless communication device;

an acceptance module configured to receive a communication originated by the second wireless communication device accepting the offer to provide data indicative of the location of the first wireless communication device, wherein the acceptance module is configured to receive the communication within a predetermined time window relative to the offer; and

a tracking data module configured to automatically and periodically transmit data indicative of the location of the first wireless communication device at least for a limited period of time and within a predetermined radius of the first wireless communication device relative to a

location of the second wireless communication device, and the tracking data module further configured to transmit data indicative of at least a position, a route, a speed, and a direction of the first wireless communication device, the tracking date module further configured to transmit data useable by the second wireless communication device in determining a spatial relationship between the location of the first wireless communication device and the location of the second wireless communication device.

22. The wireless communication device of claim **21**, wherein the tracking data module comprises:

a tracking data module configured to transmit data indicative of changes in location of the first wireless communication device.

23. A wireless communication device comprising:

means for transmitting an offer to provide data indicative of a location of the wireless communication device from the wireless communication device to a second wireless communication device;

means for receiving a communication originated by the second wireless communication device accepting the offer to provide data indicative of the location of the wireless communication device, wherein the means for receiving a communication is configured to receive the communication within a predetermined time window relative to the offer; and

means for automatically and periodically transmitting data indicative of the location of the wireless communication device at least for a limited period of time and within a predetermined radius of the wireless communication device relative to a location of the second wireless communication device, the means for automatically and periodically transmitting data configured to transmit data indicative of at least a position, a route, a speed, and a direction of the wireless communication device, the means for automatically and periodically transmitting data further configured to transmit data useable by the second wireless communication device for determining a spatial relationship between the location of the wireless communication device and the location of the second wireless communication device.

24. A method comprising:

receiving an offer at a second wireless communications device, the offer being transmitted to the second wireless communications device by a first wireless communications device, the offer including at least offering to automatically and periodically provide data indicative of a location of the first wireless communications device to the second wireless communications device at least for a limited period of time and within a predetermined radius of the first wireless communications device relative to a location of the second wireless communications device, and the offer further including at least offering to provide data indicative of at least a position, a route, a speed, and a direction of the first wireless communications device;

transmitting an acceptance of the offer to provide data indicative of the location of the first wireless communications device, including at least transmitting the acceptance within a predetermined time window relative to the receiving of the offer;

receiving data indicative of the location of the first wireless communications device; and

determining a spatial relationship between the location of the first wireless communications device and the location of the second wireless communications device.

25. The method of claim **24**, further comprising:

displaying an aspect of the determined spatial relationship between the location of the first wireless communications device and the location of the second wireless communications device.

26. The method of claim **24**, further comprising:

creating an acceptance of the offer transmitted from the first wireless communication device to the second wireless communication device, the creating of the acceptance being performed with the second wireless communications device in response to user input acquired at least partly via a user interface of the second wireless communications device.

27. The method of claim **24**, wherein the receiving data indicative of the location of the first wireless communications device comprises:

receiving data indicative of at least one of a stationary location or a moving location of the first wireless communication device.

28. The method of claim **24**, wherein the receiving data indicative of the location of the first wireless communications device comprises:

receiving data useable by the second wireless communication device for displaying information indicative of a spatial relationship between the location of the first wireless communication device and the location of the second wireless communication device.

29. The method of claim **24**, wherein the receiving data indicative of the location of the first wireless communications device comprises:

receiving data useable by the second wireless communication device in generating information usable for directing at least one of a person, vehicle, craft, or plane associated with the second wireless communication device to a location proximate to the location of the first wireless communication device.

30. The method of claim **24**, wherein the receiving data indicative of the location of the first wireless communications device comprises:

receiving data useable by the second wireless communication device in generating information usable for directing at least one of a person, vehicle, craft, or plane associated with the second wireless communication device to the location of the first wireless communication device.

31. A method comprising:

transmitting from a first wireless communication device to a second wireless communication device an offer to provide data indicative of a location of the first wireless communication device;

receiving a communication originated by the second wireless communication device accepting the offer to provide data indicative of the location of the first wireless communication device, including at least receiving the communication within a predetermined time window relative to the offer;

authorizing transmission of data indicative of the location of the first wireless communication device to the second wireless communication device;

transmitting data indicative of the location of the first wireless communication device to the second wireless communication device, the transmitting of the data being performed automatically and periodically at least for a limited period of time and within a predetermined radius of the first wireless communication device relative to a location of the second wireless communication device, and the transmitting further including transmitting data

indicative of at least a position, a route, a speed, and a direction of the first wireless communication device.

32. A method comprising:

transmitting from a first wireless communication device to a second wireless communication device an offer to provide data indicative of a location of the first wireless communication device;

receiving a communication originated by the second wireless communication device accepting the offer to provide data indicative of the location of the first wireless communication device, including at least receiving the communication within a predetermined time window relative to the offer; and

transmitting data indicative of the location of the first wireless communication device, the transmitting of the data being performed automatically and periodically at least for a limited period of time and within a predetermined radius of the first wireless communication device relative to a location of the second wireless communication device, and the transmitting of the data further including at least transmitting data indicative of at least a position, a route, a speed, and a direction of the first wireless communication device, the transmitted data useable by the second wireless communication device in determining a spatial relationship between the location of the first wireless communication device and the location of the second wireless communication device.

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